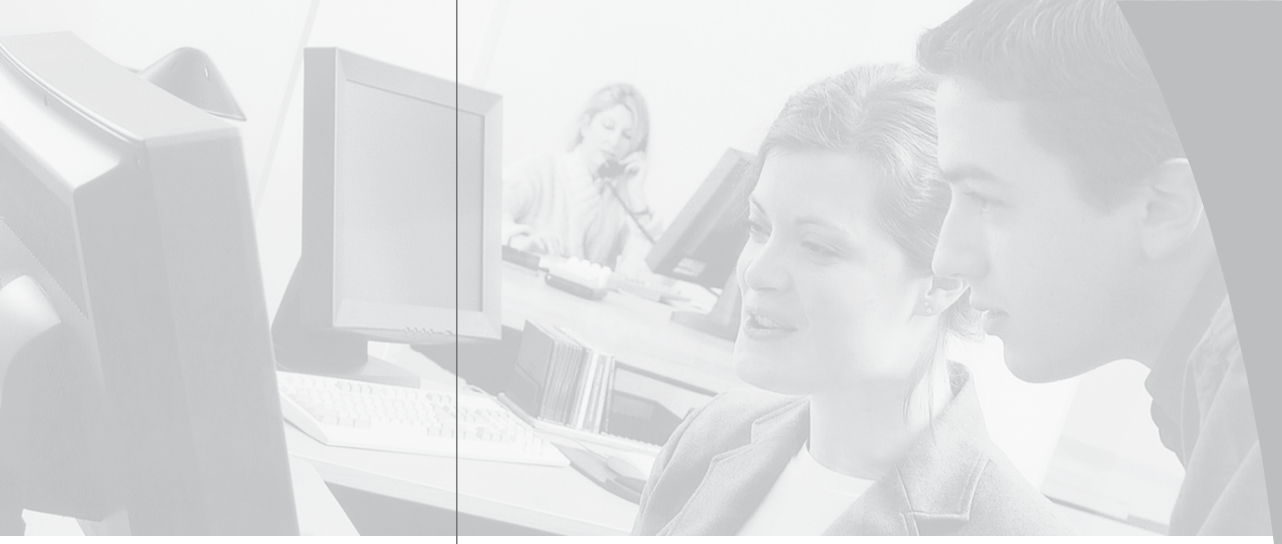
Avocent™

AVWorks™

Installer/User Guide

INSTRUCTIONS

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



AVWorks™

Installer/User Guide

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1 Product Overview

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Chapter 1: Product Overview

About AVWorks

AVWorks is a cross-platform management application that allows you to view and control the AutoView 1000R/2000R appliance and all its target devices. The cross-platform design ensures compatibility with most popular operating systems and hardware platforms. AutoView 1000R provides secure switch-based authentication, data transfers and username/password storage. Each appliance handles authentication and access control individually, placing system control at the point of need.

AVWorks utilizes browser-like navigation with an intuitive split-screen interface, providing you with a single point of access for all your servers. Using AVWorks, you can manage your existing appliances, install a new switch or launch a video session to a target device. Built-in groupings such as Devices, Sites and Folders provide an easy way to select the units to view. Powerful search and sort capabilities allow you to easily find any unit.

NOTE: Throughout the documentation and AVWorks user interface, you will see the word "appliance" used generically to describe the AutoView 1000R/2000R switch.

Features and Benefits

Easy to install and configure

AVWorks is designed for easy installation and operation. Auto-discovery of managed appliances enables you to deploy new units in minutes. Wizard-based installation and online help simplify initial system configuration. The intuitive graphical interface makes managing and updating appliances simple and straightforward.

Powerful customization capabilities

Tailor AVWorks to fit your specific system needs. Take advantage of built-in groups or create your own. Customize unit and field names, icons and macros for maximum flexibility and convenience. Using names that are meaningful to you makes it easy to quickly find any target device.

Extensive AutoView 1000R/2000R management

AVWorks allows you to add and manage multiple appliances in one system. Once a new appliance is installed, you can configure switch parameters, control and preempt user video sessions and execute numerous control functions, such as rebooting and upgrading your appliance. From the intuitive Appliance Management Panel, you can enable Simple Network Management Protocol (SNMP) traps, configure target devices and cascade switches as well as manage user databases.

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Chapter 2: Installation

Getting Started

Before installing your AVWorks, refer to the following lists to ensure that you have all the items that shipped with your software as well as all other items necessary for proper installation.

Supplied with AVWorks

Your AVWorks package contains the following items:

- AVWorks CD
- AVWorks Installer/User Guide
- Download Instructions

Supported operating systems

AVWorks is supported on the following operating systems:

- Microsoft® Windows® 2000 Workstation - Service Pack 2
- Microsoft Windows 2000 Server - Service Pack 2
- Microsoft Windows NT® 4.0 Workstation - Service Pack 6a
- Microsoft Windows NT 4.0 Server - Service Pack 6a
- Microsoft Windows XP (Home and Professional)
- Red Hat Linux® 7.1 (2.7 Kernel)
- Red Hat Linux 7.2 (2.7 Kernel)

PC hardware configuration requirements

AVWorks is supported on the following minimum PC hardware configurations:

- 500 MHz Pentium III
- 128 MB RAM
- 10 or 100 BaseT NIC
- XGA Video with graphics accelerator
- Desktop size must be a minimum of 800 x 600
- Color palette must be a minimum of 256 colors

Installing AVWorks

AVWorks can be installed on Microsoft Windows NT, Windows 2000, Windows XP and Linux platforms. The following instructions will allow you to install AVWorks on the desired platform.

To install on Microsoft Windows NT, 2000 or XP:

1. Insert the AVWorks CD-ROM into your CD-ROM drive. If AutoPlay is supported and enabled, the setup program will start automatically.
   -or-
   If your system does not support AutoPlay, set the default drive to your CD-ROM drive letter and execute the following command to start the install program (replace **drive** with your CD-ROM drive letter):

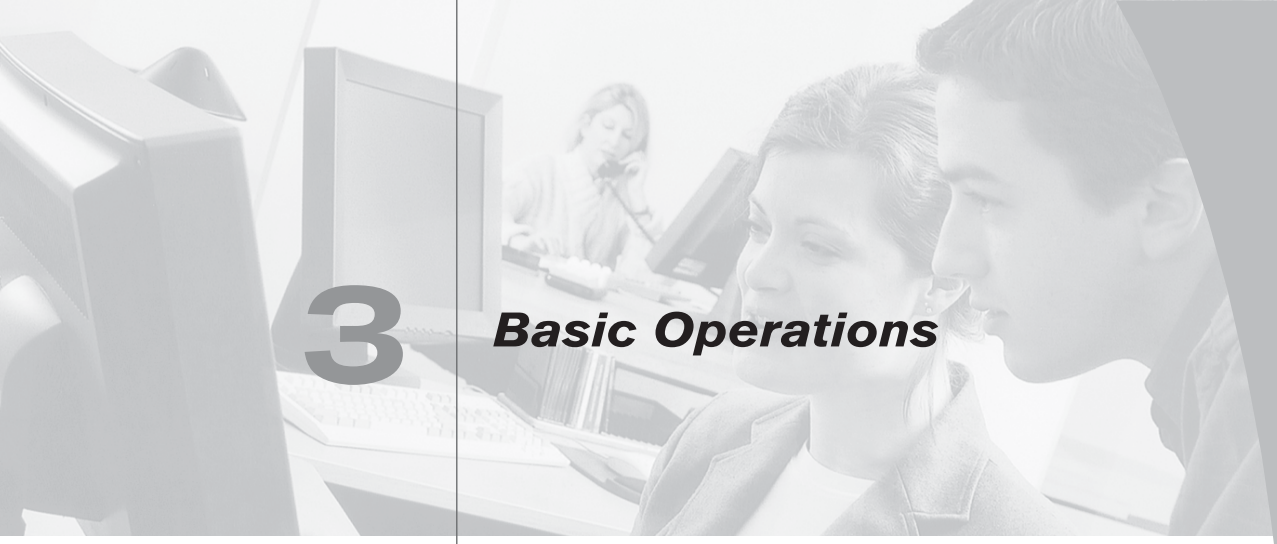
   ```
   drive:\WIN32\SETUP.EXE
   ```

2. Follow the on-screen instructions.

To install on Red Hat Linux:

1. Insert the AVWorks CD-ROM into your CD-ROM drive. If AutoPlay is supported and enabled, the setup program will start automatically.
   -or-
   If your system does not support AutoPlay:
   a. Mount the CD-ROM volume by executing the following command:
      ```
      mount -t iso9660 -ro mode=0555 <unit> <mount point>
      ```
      Replace **<unit>** with the name of the CD-ROM on your machine and **<mount point>** with the name of the desired mount point. For example, to mount a CD-ROM which is the second IDE unit on /mnt, execute the command:
      ```
      mount -t iso9660 -ro mode=0555 /dev/hdb /mnt
      ```
   b. Execute the following command to change the working directory to the mount point:
      ```
      cd /mnt
      ```
   c. Execute the following command to start the install program:
      ```
      sh./linux/setup.bin
      ```

2. Follow the on-screen instructions.



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Chapter 3: Basic Operations

Launching AVWorks

To launch AVWorks on all Microsoft Windows operating systems:

Select *Start - Programs - Avocent AVWorks*.
-or-
Double-click the AVWorks icon. AVWorks will launch.

To launch AVWorks on Red Hat Linux (7.1 and 7.2):

From the application folder (/usr/lib/Avocent_AVWorks/), execute the following command:
./Avocent_AVWorks
-or-
From (/user/bin), execute the following link:
./Avocent_AVWorks
-or-
If a desktop shortcut was created on installation, double-click the shortcut. AVWorks will launch.

Navigating AVWorks

AVWorks consists of several components: the AVWorks Explorer, the Video Session Viewer (Viewer) and the Appliance Management Panel (AMP). Once you launch AVWorks, the main AVWorks Explorer window appears. The AVWorks Explorer window allows you to view, access, manage and create custom groupings for all of the supported units in your data center.

When you select a target device, you can click the *Connect Video* task button in the AVWorks Explorer to launch the Viewer. This component allows you to control the keyboard, monitor and mouse functions of individual servers. For more information, see *Accessing and Managing Your Devices* in this chapter.

When you select an appliance, you can click the *Manage appliance* task button in the AVWorks Explorer to launch the AMP. This component enables you to configure and control your appliance. For more information, see Chapter 4.

Viewing your system in the AVWorks Explorer

The AVWorks Explorer is divided into several panes: the View Selector tabs, the Group Selector pane and the Unit Selector pane. The content of these panes will change based on the type of unit selected or the task to be completed. Figure 3.1 highlights these navigation features.

Click one of the View Selector tabs to view your system organized by categories: Appliances, Devices, Sites or Folders. The AVWorks Explorer's

default display is user-configurable. For more information, see *Customizing the AVWorks Explorer Window* in this chapter. The AVWorks Explorer default display is set for the Server view once you have added your first appliance.

NOTE: The Group Selector pane does not appear under the Appliances or Devices tab unless you have more than one type of appliance or device.

AVWorks Explorer Window Features

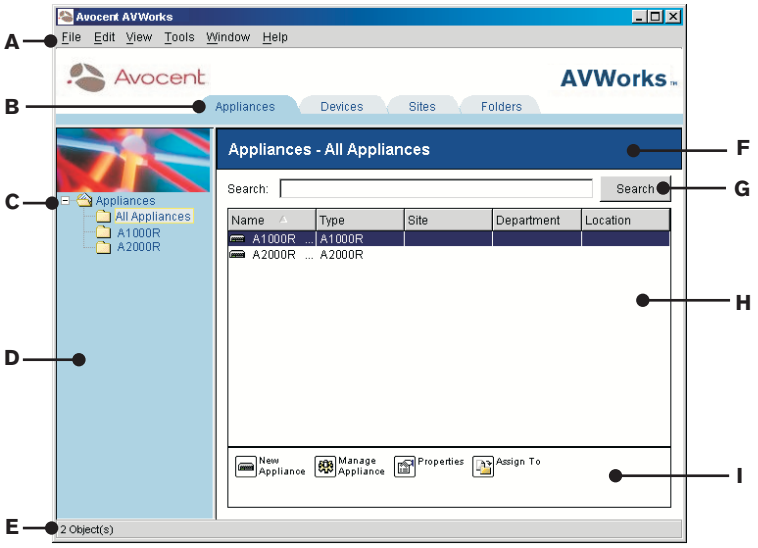

Figure 3.1: AVWorks Explorer Window

A. Menu bar: Allows you to access many of the features in AVWorks.

B. View Selector: Contains four View Selector tabs for choosing the AVWorks Explorer view.

C. Root node: Each tree consists of a root node and branches.

D. Group Selector pane: Contains a tree view representing the groups that are available for the current View Selector tab. The selected group controls what is displayed in the Unit Selector pane when the Appliances, Devices, Sites or Folder tabs are selected.

E. Status bar: Displays the number of units shown in the Unit list.

F. Unit Selector pane: Contains the Search bar, Unit list and Task buttons appropriate for the selected view or group.

G. Search bar: Allows you to search the database for the text entered in the search box.

H. Unit list: Displays a list of servers, appliances and other selectable devices contained in the currently selected group, or the results of the search executed from the Search bar.

I. Task buttons: Contains buttons representing tasks that can be executed. Some buttons are dynamic based on the type of unit(s) selected in the Unit list while other buttons are fixed and always present.

Appliance/AVWorks Quick Setup Checklist

The following list is an overview of the steps you will follow to set up and configure your AutoView system. Each of these steps is explained in detail in separate topics throughout this and the AutoView 1000R/2000R Installer/User Guide.

To set up the AutoView 1000R/2000R: (See the AutoView 1000R/2000R Installer/User Guide)

1. Adjust mouse acceleration on each server to *Slow* or *None*.
2. Install the AutoView 1000R/2000R hardware, connect the AVRIQ adaptors and connect the keyboard, monitor and mouse to the analog port.
3. Connect a terminal to the configuration (serial or 101 notation) port on the back panel of the AutoView and set up network configuration (set network speed and address type). The IP address can be set from AVWorks.
4. Using the local analog workstation, input all server names via the On-Screen Configuration and Activity Reporting interface (OSCAR).

To set up AVWorks: (See this installer/user guide)

1. Install AVWorks on each AVWorks client.
2. From one AVWorks client, launch AVWorks.
3. Click the *New Appliance* task button to add the new switch to the AVWorks database. The New Appliance Wizard appears. If you configured the IP address as described above, select *Yes, the product already has an IP address*, otherwise select *No, the product does not have an IP address*. AVWorks will find the appliance and all AVRIQ adaptors attached to it. These names will display in the AVWorks Explorer.
4. Set properties and group servers as desired into locations, sites or folders through the AVWorks Explorer.
5. Create user accounts through the AMP.
6. Once one AVWorks client is set up, select *File - Database - Save* to save a copy of the database with all the settings.
7. From the second AVWorks client , click *File - Database - Load* and browse to find the file you have saved. Select the file and click *Load*.
8. If the local analog workstation (via OSCAR) adds, deletes or renames any AVRIQ adaptors after you have loaded this file, you can resynchronize your local database with OSCAR by clicking the *Manage Appliance* task button and clicking the *Resync* button under *Settings - Devices*.
9. To access a server attached to your AutoView 1000R/2000R, select the desired server in the AVWorks Explorer and click the *Connect Video* task button to launch a server session in the Video Session Viewer.
10. Adjust the resolution (select *View - Auto Scale*) and quality (select *Tools - Automatic Video Adjust*) of the server video in the Video Session Viewer.

Adding an Appliance

Before you can access your appliance through AVWorks, you must add it to the AVWorks database. Once an appliance is added, it appears in the Unit list. You may either manually add or discover an appliance.

To manually add an appliance with an assigned IP address:

1. Select *File - New - Appliance* from the AVWorks Explorer menu.
   -or-
   Click the *New Appliance* task button. The New Appliance Wizard appears. Click *Next* to continue.
2. Select the type of appliance you are adding. Click *Next*.
3. You are prompted to indicate whether the appliance has an assigned IP address or not. Click *Yes*, then click *Next*.
4. The Find AutoView 1000R/2000R window appears. Type the IP address and click *Next*.
5. AVWorks will search for the indicated unit as well as all the powered AVRIQs and server names you associated with it in OSCAR, if any. If you want to search for unpowered AVRIQs, you can access the Resync feature under the Devices category in the AMP and click the *Include Offline AVRIQ adaptors* checkbox. For more information, see *Viewing server connections* in Chapter 4. Click *Next*.
6. The Configure Cascade Switches dialog box appears if AVWorks detects an attached legacy KVM switch such as an OutLook ES or AutoView 200 or 400 series switch. This box contains a list of all AVRIQ adaptor EIDs (Electronic Identification Numbers) retrieved from the appliance and the cascade switches to which they are connected, if any. When this dialog box first displays, all the switches will be set to *None*. Switches detected will have an icon next to the pulldown menu.
   a. The Existing Cascade Switches field contains all the current switches defined in the database. Click *Add, Delete* or *Modify* to alter the list.
   b. Associate the appropriate switch from the pulldown menus for each AVRIQ that has a switch attached.

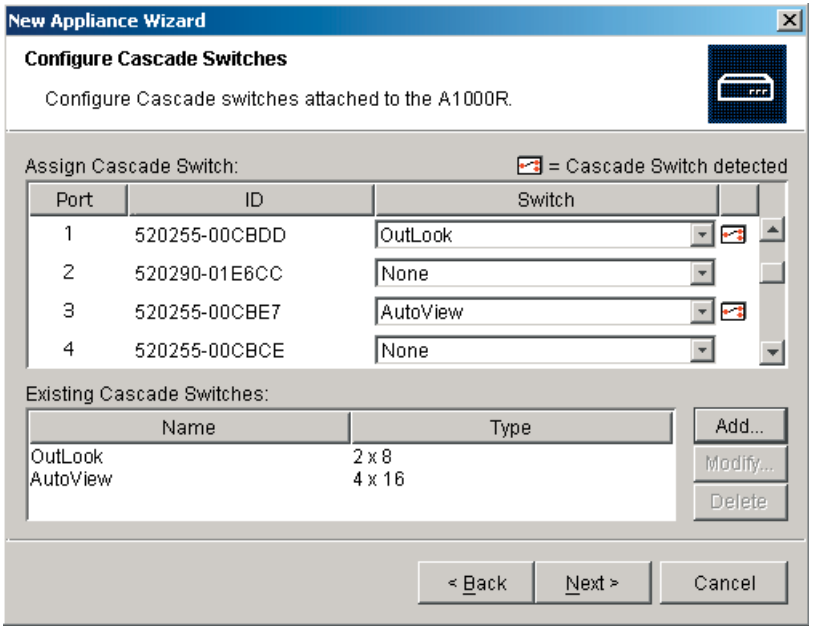

Figure 3.2: Configure Cascade Switches Dialog Box

7. When you reach the final page of the Wizard, click *Finish* to exit the Wizard and return to the main window. Your appliance should now appear in the Unit Selector pane.

To manually install a new appliance with no assigned IP address:

1. Select *File - New - AutoView 1000R/2000R* from the AVWorks Explorer menu.
   -or-
   Click the *New Appliance* task button. The New Appliance Wizard appears. Click *Next* to continue.
2. You are prompted to indicate if the AutoView 1000R/2000R has an assigned IP address. Click *No* and then click *Next*.
3. The Network Address window appears. Type the IP address, subnet mask and gateway that you want to assign to the unit and click *Next*.
4. The Select AutoView 1000R/2000R window appears, prompting you to select the unit to add from the list of new appliances that were found. Select the unit and then click *Next*.
5. The Configuring AutoView 1000R/2000R window indicates whether the IP information was successfully configured. If the configuration was successful, AVWorks will search for the new appliance as well as all AVRIQs and server names associated with it. Click *Next*.
6. The Configure Cascade Switches dialog box appears if AVWorks detects an

attached switch. This box contains a list of all AVRIQ adaptor EIDs retrieved from the appliance and the cascade switches to which they are connected, if any.

a. The Existing Cascade Switches field contains all the current switches defined in the database. Click *Add, Delete* or *Modify* to alter the list.
b. Associate the appropriate switch from the pulldown menus for each AVRIQ that has a switch attached.

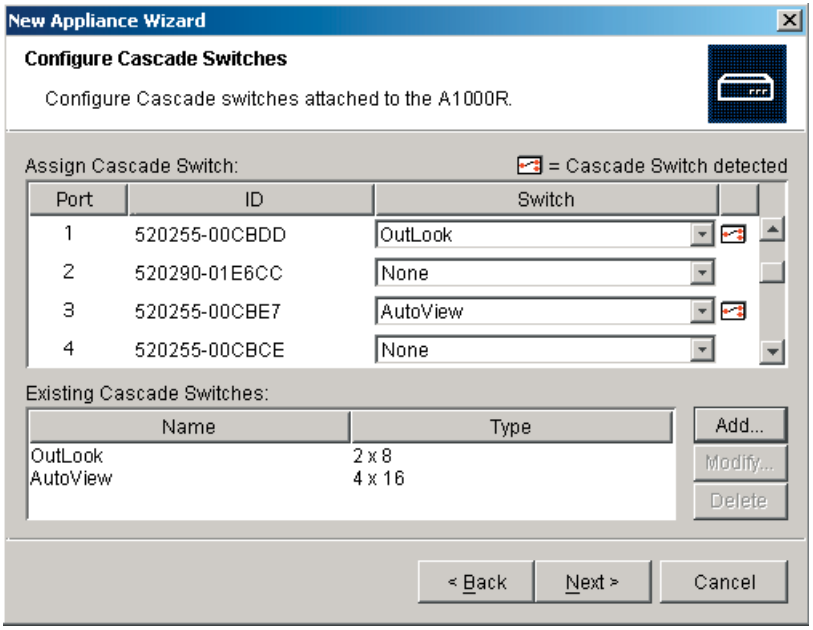

Figure 3.3: Configure Cascade Switches Dialog Box

7. When complete, click *Finish* to exit the Wizard and return to the main window. Your appliance should now appear in the Unit Selector pane.

To discover an appliance by IP address:

1. Select *Tools - Discover* from the AVWorks Explorer menu. The Discover Wizard appears. Click *Next* to continue.
2. The Address Range page appears. Type the range of IP addresses to search on the network in the To and From boxes. Use the IP address dot notation xxx.xxx.xxx.xxx. Click *Next* to continue.
3. The Searching Network progress bar appears. If one or more new appliances are discovered, the Wizard shows the Select Appliances to Add page. From this page, you can choose the appliances to add to the local database.
   -or-
   If no new appliances were found (or if you clicked *Stop*), the Wizard will show the No New Appliances Found page and you will need to add the

switch manually. For more information, see the previous procedures.

4. Click on an appliance to add and click the *Add (>)* icon to move the selection to the Appliances to Add list.
5. Repeat step 4 for all appliances you wish to add. Click *Next* to continue.
6. The Adding Appliances progress bar appears while the new switches are being added. Once all of the switches have been added to the local database, the Discover Wizard Completed page appears. Click *Finish* to exit the Wizard and return to the main window. Your new switch should now be in the Unit Selector pane.

   The Discover Wizard will not automatically find servers attached to the appliance. After running the Discover Wizard, you must click the *Resync* button in the Appliance Management Panel to find servers attached to the appliance. For more information, see *Resynchronizing the server listing* in Chapter 4.
   -or-
   If one or more appliances could not be added to the local database for any reason (including if you clicked *Stop* during the add process), the Discover Wizard Not All Appliances Added page appears. This page will list all of the appliances that you selected and the status for each. The status will indicate if an appliance was added to the local database and if not, why the process failed. Click *Done* when you are finished reviewing the list.

NOTE: If an appliance already exists in the database with the same IP address as a discovered unit, then the discovered unit will be ignored and will not display on the next Wizard page.

Accessing an Appliance

When you click the *Appliances* button, you will see a list of the appliances currently defined in the local database. To access an appliance, you must first log into it by typing in a username and password. Once you have logged into an appliance, AVWorks will cache the username and password in memory for the duration of the AVWorks session.

NOTE: You can clear the login credentials by selecting *Tools - Clear Login Credentials*.

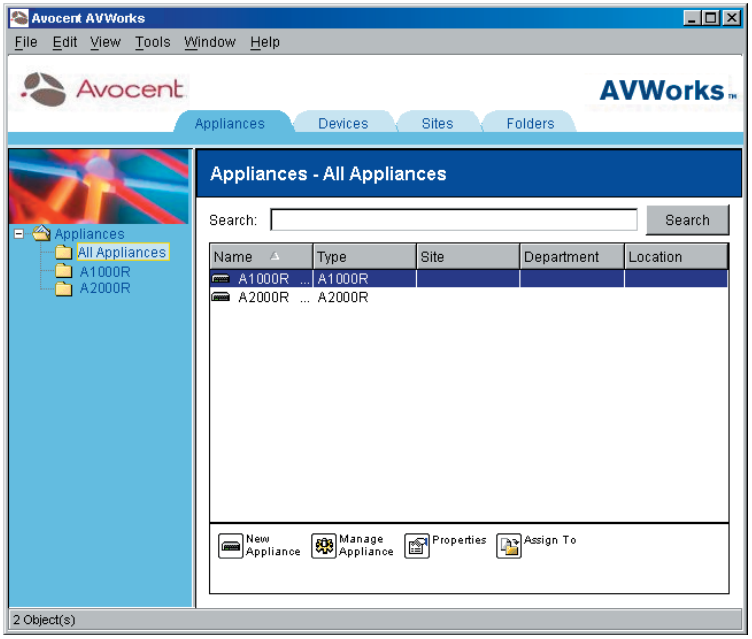

Figure 3.4: Appliances View Tab Selected

To log into an appliance:

1. Click the *Appliances* button in the AVWorks Explorer.
2. Double-click on an appliance from the Unit Selector pane.
   -or-
   Select an appliance, and then click the *Manage appliance* task button.
   -or-
   Right-click an appliance. A pop-up menu appears. Select *Manage appliance*.
   -or-
   Click an appliance in the Unit Selector pane and press **Enter**.
3. A password prompt displays. Type in your username and password. The default username is **Admin** (case sensitive) with no password.

NOTE: If you previously logged into the appliance during the same AVWorks session, the password prompt will not appear.

4. Click *OK* to access the appliance. This launches the AMP. For more information about the AMP, see Chapter 4.
   -or-
   Click *Cancel* to exit without logging in.

Accessing and Managing Your Devices

The Devices tab displays a list of devices (such as servers, routers and other serially-managed devices) defined in the database. The Group Selector pane appears if two or more device types are defined. Click *All Devices* or click on a folder to view all devices of a particular type. When you select a server and click the *Connect Video* task button, the Viewer launches. The Viewer allows you full keyboard, monitor and mouse control over a server.

You can also scan through a customized list of servers by enabling individual servers to appear in the Thumbnail Viewer. This view contains a series of thumbnail frames, each containing a small, scaled, non-interactive version of a server's screen image. For more information, see *Viewing multiple servers using the Scan Mode* in this chapter.

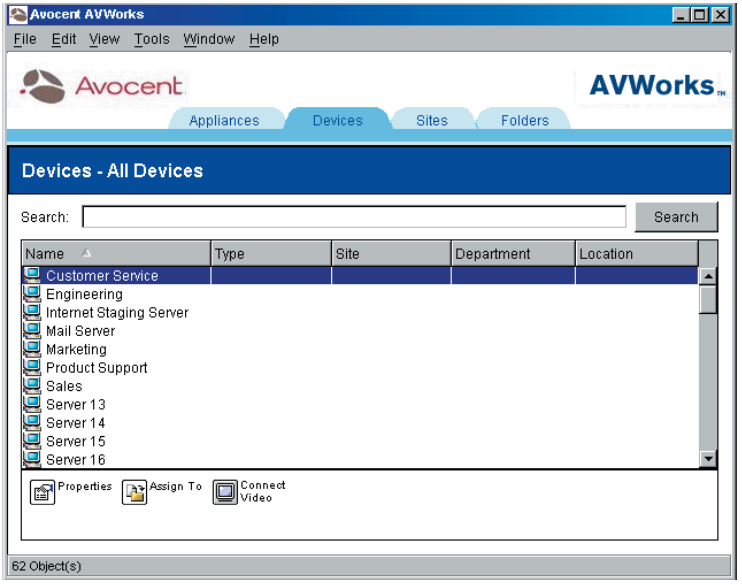

Figure 3.5: Devices View Tab Selected

To access a server:

1. Click the *Devices* tab in the AVWorks Explorer.
2. Double-click on the server from the Unit Selector pane.
   -or-
   Select a server, and then click the *Connect Video* task button.
   -or-
   Right-click on the server. A pop-up menu appears. Select *Connect Video*.
   -or-
   Click a server in the Unit Selector pane and press **Enter**. The Viewer launches in a new window.

To search for a server in the local database:

1. Click the *Devices* tab and insert your cursor in the Search text box.
2. Type the search information. This can be a device name or property such as Type or Location.
3. Click the *Search* button. The results appear in the Unit list.
4. Review the results of your search.
   -or-
   Click the *Clear Results* button to display the entire list again.

To auto search by typing in the Unit list:

1. Click the *Devices* tab, then click on any item in the Unit list.
2. Begin typing the first few characters of a device name. The highlight will move to the first device name beginning with those characters. To reset the search so you can find another device, pause for a few seconds and then type the first few characters of the next device.

Preempting the local user

If the server you are attempting to access is currently being viewed by the local user, AVWorks allows you to preempt, or disconnect, the local user so that you can access that server. You will see a notification display requesting that you confirm the termination of the local user connection. The local user will receive a notification message once you have confirmed.

NOTE: You cannot preempt the local user if he or she is in Broadcast mode. See the AutoView 1000R/AV2000R Installer/User Guide for additional information.

To preempt the local user:

1. Select a server to access and select the *Connect Video* task button.
2. If the local user is already viewing this server, a message appears informing you of this and requesting if you would like to terminate the local user's session. Click *Yes* to terminate the local user connection. The Video Viewer launches.
   -or-
   Click *No* to allow the local user to retain the connection.

Interacting with the server being viewed

Once you have connected to a server, the server's desktop appears in a separate window called the Video Session Viewer. You will see both the local and the server's cursor. You may need to align these if they do not move together or adjust the video if they seem to behave sporadically. See *Aligning the mouse or resetting the PS/2 connection* in this chapter.

From this window, you will be able to access all the normal functions of this server as if you were sitting in front of it. You may also perform Viewer-specific tasks such as sending special Macro commands to the server.

Viewer Window Features

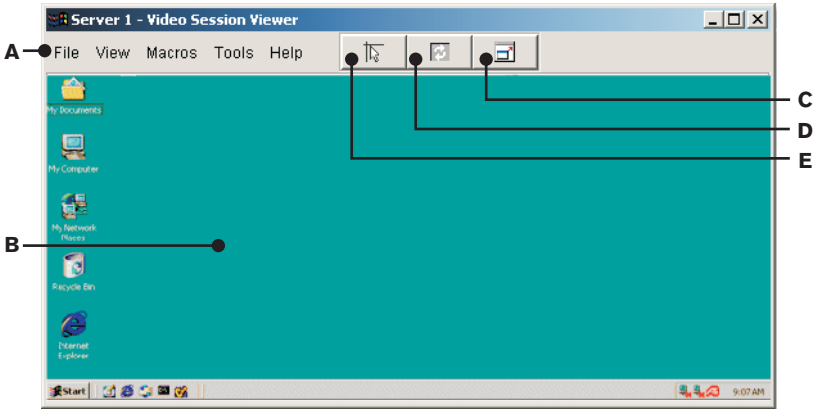

Figure 3.6: Video Viewer Window

A. Menu bar: Access many of the features in the Viewer.

B. Accessed server desktop: Interact with your server through this window.

C. Full Screen Mode button: Expand the accessed server desktop to fill the entire screen.

D. Refresh Video button: Regenerate the digitized video image of the server desktop.

E. Align Local Cursor button: Re-establish proper tracking of the local cursor to the remote server cursor.

Expanding and refreshing your Video Viewer

You can adjust your view using the three buttons at the top of the Video Viewer window. The first button allows you to align the mouse cursors, the second is to refreshes the video and the third expands the Video Viewer window to encompass the entire screen. If you choose to expand the Video Viewer window, the menu bar will disappear, but you will still see a small floating palette with these three buttons, the Macros pulldown menu and the server name.

Figure 3.7: Full Screen Toolbar

To align the mouse cursors:

Click the *Align Local Cursor* button on the Viewer toolbar. The local cursor will align with the cursor on the remote server.

To refresh the screen:

Click the *Refresh Image* button on the Viewer toolbar.
-or-
From the Viewer menu, select *View - Refresh*. The digitized video image will be completely regenerated.

To enter full screen mode:

Click the *Full Screen Mode* button.
-or-
From the Viewer menu, select *View - Full Screen*. The desktop window will disappear and only the accessed server desktop will be visible. The screen will be resized up to a maximum of 1024 x 768. If the desktop has a higher resolution, then a black background will surround the full screen image. The floating toolbar will appear.

To exit full screen mode:

Click the *Full Screen Mode* button on the floating toolbar to exit full screen mode and return to the desktop window.

Adjusting the Video Viewer window

You can adjust both the resolution and quality of the Video Viewer. You can also expand your session to fit the entire screen or refresh the view at any time.

Adjusting the window size

The Video Viewer allows you to set up automatic or manual scaling of the session image. When *Auto Scale* is selected, the desktop window remains fixed and the server image is scaled to fit the window. When *Manual Scale* is selected, a drop-down menu of supported image scaling resolutions is displayed.

To adjust the size of the Video Viewer window:

From the menu, select *View - Auto Scale* to allow the server image to be scaled automatically.
-or-
From the menu, select *View - Manual Scale,* then choose the dimension to scale the window.

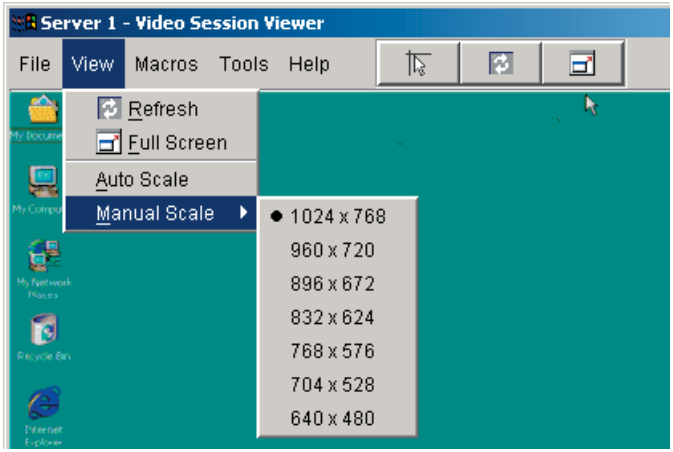

Figure 3.8: Viewer Manual Scale

Adjusting the video quality

The Video Viewer offers both automatic and manual video adjustment capability. Generally, the Automatic Video Adjustment will optimize the video for the best possible view. However, you may fine tune the video with the aid of Avocent Technical Support. See *Appendix E: Troubleshooting*. Video adjustment is a global setting and applies to each target device you access.

Adjusting mouse settings

The Video Viewer allows you to select among five different mouse cursor options, set up mouse scaling and resynchronize your mouse should it no longer track properly. Mouse settings are target device-specific and can be set differently for each. These settings are placed into the local client database and applied each time you launch a session to a specific device.

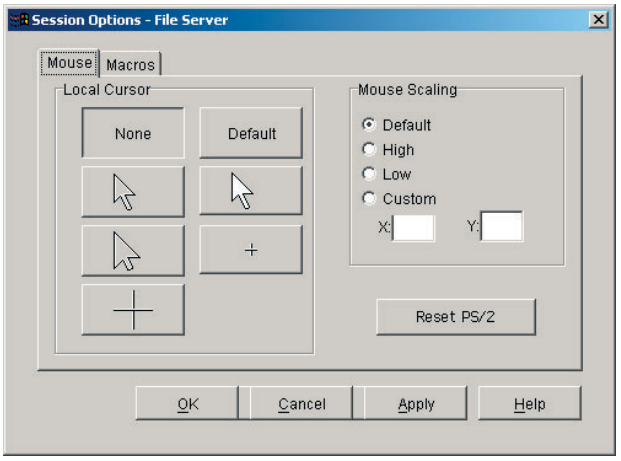

Figure 3.9: Viewer Mouse Session Options Dialog Box

Setting mouse scaling

You can choose among three preconfigured mouse scaling options or set your own custom scaling. The preconfigured settings are: Default (1:1), High (2:1) or Low (1:2). In a 1:1 scaling ratio, every mouse movement on the desktop window will send an equivalent mouse movement to the server. In a 2:1 scaling, the same mouse movement will send a 2X mouse movement. In a 1:2 scaling, the value will be 1/2X.

To set custom mouse scaling:

1. Select *Tools - Session Options*. The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. Click the *Custom* radio button. The X and Y fields become enabled.
4. Type a mouse scaling value in the X and Y fields. For every mouse input, the mouse movements are multiplied by the respective X and Y scaling factors. Valid input ranges are 0.25 to 3.00.

Aligning the mouse or resetting the PS/2 connection

If you find that your mouse or keyboard no longer responds properly, you can align the mouse to re-establish proper tracking or reset the PS/2 connection. Resetting this connection causes the appliance to simulate a mouse and keyboard reconnect at the server as if you had disconnected and then reconnected them. Alignment causes the local cursor to be aligned with the cursor on the remote server.

NOTE: If the server does not support the ability to disconnect and reconnect the mouse (almost all newer PCs do), then the mouse will become disabled and the server will have to be rebooted.

To realign the mouse:

Click the *Align Local Cursor* button on the Viewer toolbar.

To reset the PS/2 connection:

1. Select *Tools - Session Options* in the Viewer. The Session Options dialog box appears.
2. Click the *Mouse* tab.
3. Click the *Reset PS/2* button. A dialog box appears prompting you to confirm.
4. Click the *Reset PS/2 Connection at the Device* checkbox and click *OK*.

Viewing multiple servers using the Scan Mode

The Video Viewer allows you to simultaneously view multiple servers through the Thumbnail Viewer of the Scan Mode. This view contains a series of thumbnail frames, each containing a small, scaled, non-interactive version of a server's screen image. The server name displays below each thumbnail as well as the status indicator.

Scanning your servers

Through the Thumbnail Viewer, you can set up a scan sequence of up to 16 servers to monitor your servers. The scan mode moves from one thumbnail image to the next, logging into a server and displaying an updated server image for a user-specified length of time (View Time Per Server), before logging out of that server and moving on to the next thumbnail image. You can also specify a scan delay between thumbnails (Time Between Servers). During the delay, you will see the last thumbnail image for all servers in the scan sequence, though you won't be logged into any servers.

When you first launch the Thumbnail Viewer, each frame will be filled with a white background until a server image is displayed. An indicator light at the bottom of each frame displays the status of the server. The default thumbnail size is based on the number of servers in the scan list.

Scan mode is a lower priority than an active connection. If you have an interactive session with a server, that server will be skipped in the scan sequence and the scan mode will proceed to the next server. No login error messages will appear. Once the interactive session is closed, then the thumbnail will be included in the scan sequence again. If another user has an active connection to a server, you will still see that thumbnail in your scan list.

To access the Scan Mode:

1. Select the *Servers, Sites* or *Folders* tab.

2. Select two or more servers in the unit selector pane pressing the **Shift** or **Control** key. The *Scan Mode* task button appears.
3. Click the *Scan Mode* task button. The Thumbnail Viewer window appears.

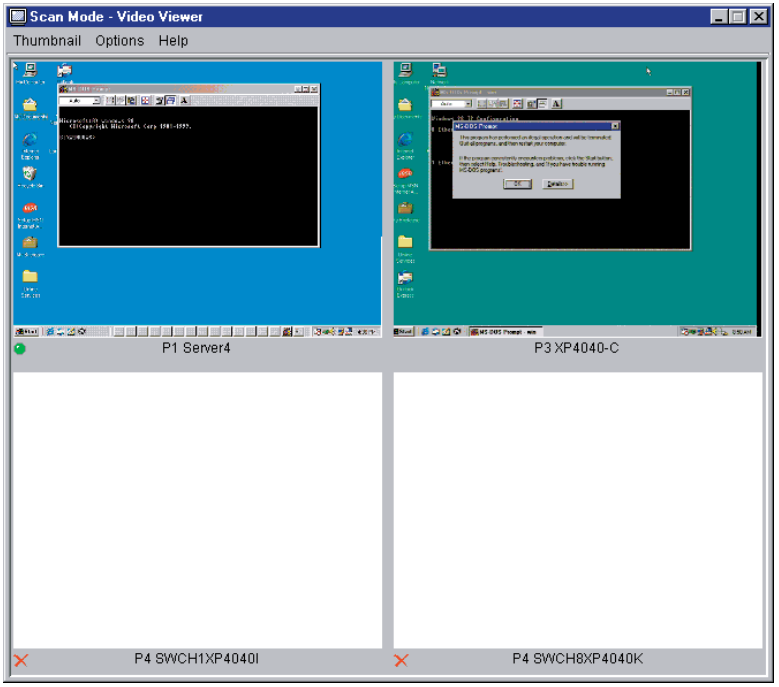

Figure 3.10: Video Viewer - Thumbnail View

Thumbnail View Status Indicators

Symbol	Description
	The green LED indicates that a server is currently being scanned.
	The red X indicates that the last scan of the server was not successful. The scan may have failed due to a credential or path failure (the server path on the AutoView 1000R/2000R was not available), or because of some other reason. The tool tip for the LED indicates the reason for failure.

To set scan preferences:

1. From the Thumbnail View, select *Options - Preferences*. The Preferences dialog box appears.
2. Enter the time each thumbnail will be active during the scan (5 to 60 seconds) in the *View Time Per Server* box.
3. Enter the length of time the scan stops between each server (5 to 600 seconds) in the *Time Between Servers* box.
4. Click *OK*.

Navigating the Thumbnail Viewer

When you highlight an individual thumbnail frame and select the Thumbnail menu, you can launch an interactive session to that server, add that server to the scan sequence or set the login credentials for that server.

The *Options* menu allows you to access scanning preferences as well as pause the scan and set the thumbnail size for all servers.

To launch a server Video session:

Select a server thumbnail. From the Thumbnail Viewer, select *Thumbnail - {servername] - View Interactive Session.*

-or-

Right-click over a server thumbnail and select *View Interactive Session.* That server's video will be launched in an interactive Video Viewer window.

To add an individual server to the scan sequence:

Select a server thumbnail. From the Thumbnail Viewer, select *Thumbnail - [server name] - Enable.*

-or-

Right-click over a server thumbnail and select *Enable.* That server will include the server thumbnail in the scan sequence.

NOTE: If a server is being accessed by a user, the *Enable Scan* menu will be disabled for that server thumbnail.

To set server credentials:

1. Select a server Thumbnail. From the Thumbnail View, select *Thumbnail - [server name] - Credentials.*
   -or-
   Right-click over a server thumbnail and select *Credentials.* The Login dialog box appears.
2. Enter a Username and Password for the selected server.

To pause or restart a scan sequence:

From the Thumbnail Viewer, select *Options - Pause Scan.* The scan sequence will pause at the current thumbnail if the Thumbnail Viewer has a scan in progress or will restart the scan if currently paused.

To change the thumbnail size:

From the Thumbnail Viewer, select *Options - Thumbnail Size.* Select the desired thumbnail size from the cascade menu.

Using macros to send keystrokes to a device

The Macros menu in the Video Viewer provides you with an easy way to send multiple keystrokes to a server or to send keystrokes that you cannot generate without affecting your local system, such as **Control-Alt-Delete**. The Viewer provides a list of default keystroke selections; however, you may set up your own macros, as well as change the set that displays by default, by selecting the *Configure* option at the bottom of the Macros pulldown menu.

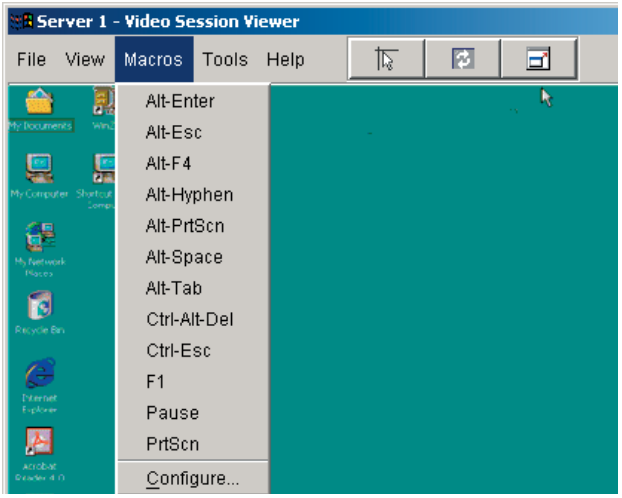

Figure 3.11: Viewer Macro Menu Expanded

Sending keystrokes to a device

Select the *Macros* menu in the Viewer and choose the macro to send to the server. Figure 3.11 shows the default macros that ship with AVWorks. If you do not see the keystroke you need, select *Configure* to access the Macros dialog box. Here you can create, modify, delete and group macros.

Macro Groups settings are specific to each target device and, therefore, can be set differently for each server. These settings are placed into the local client database and applied each time you launch a session to a specific device.

To change the default Macro group:

1. Select *Tools - Session Options* in the Viewer. The Session Options dialog box appears.
2. Click the *Macros* tab.

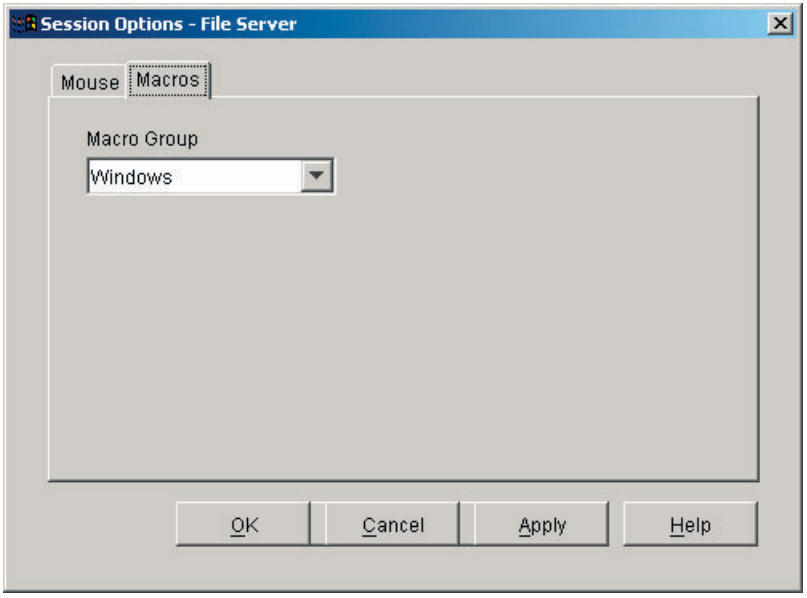

Figure 3.12: Viewer Session Options Dialog Box - Macro Tab

3. Select a macro group from the pulldown list to appear in the Macro menu and click *OK*.

Creating new macros

You can create custom macro keystrokes as well as modify and delete existing macros through the Macros dialog box.

To create a new macro:

1. Select *Macros - Configure* from the Viewer. The Macros dialog box appears.

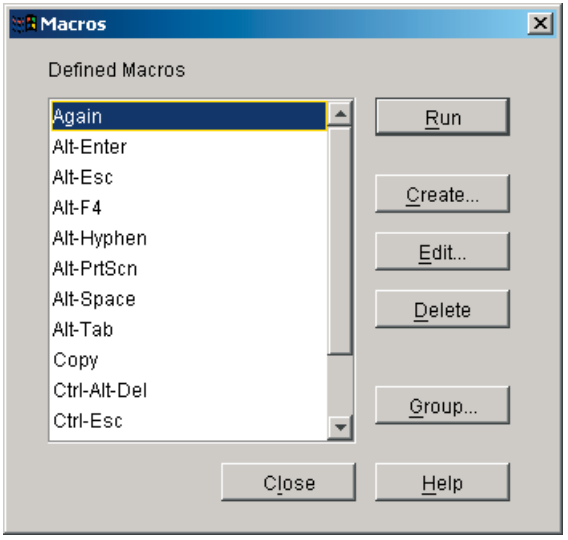

Figure 3.13: Viewer Macro Dialog Box

2. Click *Create*. The Create/Edit Macros dialog box appears.

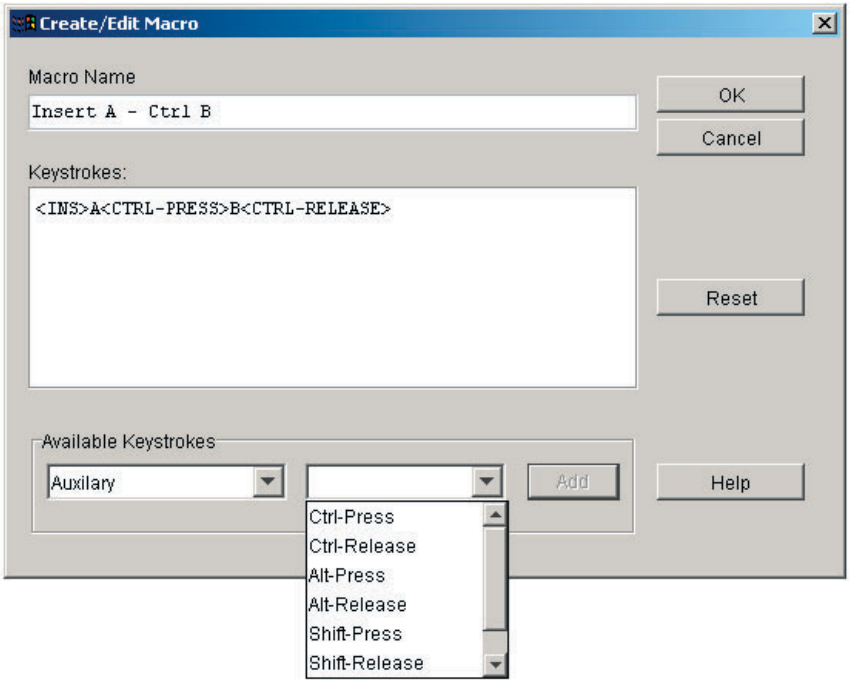

Figure 3.14: Viewer Create/Edit Macro Dialog Box

3. Type the name of the macro in the Macro Name field.

4. Select the desired category and keystrokes from the list of Available Keystrokes and click *Add*.
   -or-
   Type the keystrokes to send in the Keystrokes field.
   a. To enter a keystroke such as **Enter**, **Home** or **Insert**, surround each individual keystroke with a less than (<) and greater than (>) symbol.
      -or-
      To enter a letter or number, type the letter or number without any additional symbols.
      -or-
      For auxiliary keystrokes such as **Control**, **Shift** or **Alt**, where a press, hold and release are required to complete a command, type the initial press keystroke (such as <Ctrl-Press>), then the keystroke, letter or number of the command, followed by the closing release (such as <Ctrl-Release>). See the example in Figure 3.14.
5. Click *OK* to accept the macro and return to the Macros dialog box.
   -or-
   Click *Reset* to erase all the keystrokes entered in the Keystrokes field.

Grouping macros

The Macro Groups dialog box allows you to arrange macros into logical groups. Macro groups for Windows and Sun are already predefined; you can alter either of these two groups or create an entirely new group. You can also rename and delete groups that have been previously created.

To create a macro group:

1. Select *Macros - Configure* from the Viewer. The Macros dialog box appears.
2. Click *Group*. The Macro Groups dialog box appears. The Macros Available box contains macros that are not currently in use by this group.

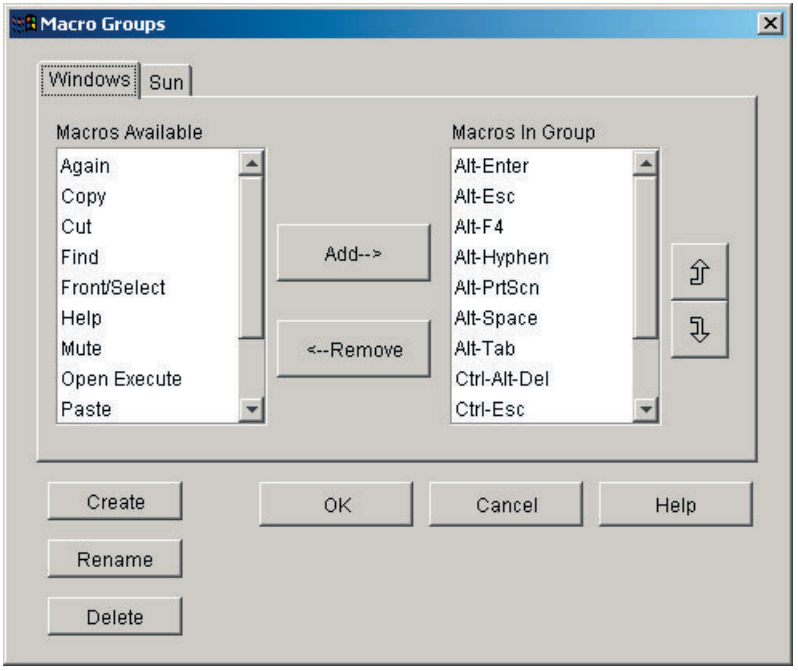

Figure 3.15: Viewer Macro Groups Dialog Box

3. Click *Create*. A dialog box appears prompting you to name the new macro group.
4. Type in a name. Click *OK* to save the name and return to the Macro Groups dialog box. A tab with the new name appears.

To add macros to an existing group:

1. Select *Macros - Configure* from the Viewer. The Macros dialog box appears.
2. Click *Group*. The Macro Groups dialog box appears.
3. Click the macro group tab to alter. Windows and Sun are the default tabs. If you have created a new group, you will see a tab for this group as well.
4. Click on the macro to add from the Macros Available pane on the left side of the dialog box. Click the *Add* button. The macro appears in the Macros in Group box. Use the *Move Up* and *Move Down* buttons to move the macro up or down in relation to the other macros.
5. Repeat step 4 until all the macros to be grouped appear in the Macros In Group box.
6. Click *OK* to accept the macro group and return to the Macros dialog box.
   -or-
   Click *Cancel* to leave this dialog box without saving changes.

To remove macros from an existing group:

1. Select *Macros - Configure* from the Viewer. The Macros dialog box appears.
2. Click *Group*. The Macro Groups dialog box appears.
3. Click the macro group tab to alter. Windows and Sun are the default tabs. If you have created a new group, you will see a tab for this group as well.
4. Click on the macro to remove from the Macros in Group pane on the right side of the dialog box. Click the *Remove* button. The macro appears in the Macros Available box.
5. Repeat step 4 until all the macros to be removed appear in the Macros Available box.
6. Click *OK* to accept the macro group and return to the Macros dialog box.
   -or-
   Click *Cancel* to leave this dialog box without saving changes.

Changing AVWorks Device Properties

You can alter device properties from the AVWorks Explorer Properties dialog box including General, Network, Information and Connections. The General tab allows you to change the device name, device type and the icon that will be used to display the server in AVWorks. You may also assign the server to a site, location or folder. The Network tab lets you set a browser URL for that server if you want to view it in a browser window instead of through a session Viewer. The Information tab allows you to enter information about the server including a server description, contact information and any comments you would like to add. Lastly, the Connections tab displays the connection that will be used for a specific server.

NOTE: You can also change the properties of your appliance. For more information, see Chapter 4.

To change device properties:

1. Select an individual server in the Unit Selector list.
2. Select *View - Properties* from the AVWorks Explorer menu.
   -or-
   Click the *Properties* task button. The Properties dialog box appears.

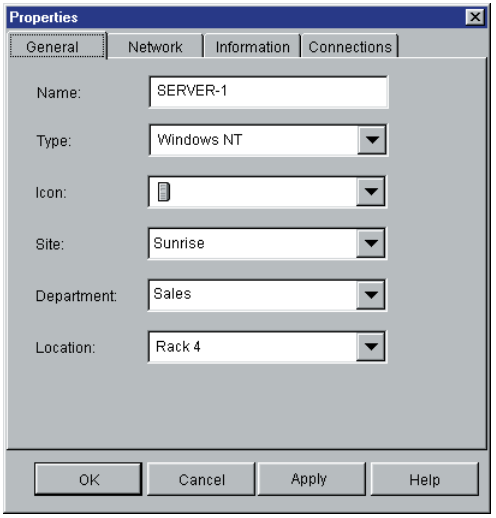

Figure 3.16: Server General Properties Tab

3. Type in the new name of the server. A warning will display if you enter a duplicate name.
4. (Optional) Select the device type. If the selection is not in the pulldown, type the name of the new server type in the text field. Once entered, the option becomes available in the pulldown for future assignment.
5. (Optional) Select the icon to display for the unit.
6. (Optional) Assign a server to a site, department or location. (These categories are customizable. See *Modifying custom field names* in this chapter.) If an option is not in the pulldown, type the name of the new assignment in the text field. Once entered, the option becomes available in the pulldown for future assignment.
7. (Optional) Click the *Network* tab and type in the URL to use when establishing a browser connection to the server. If the field contains a value, then the Browser button appears in the task bar allowing you to launch the browser to that specified URL.

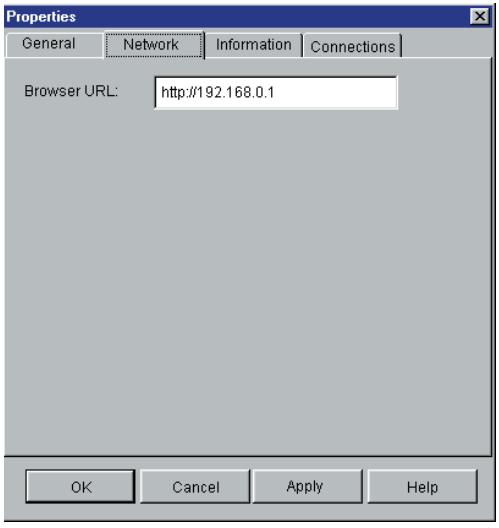

Figure 3.17: Server Network Properties Tab

8. (Optional) Click the *Information* tab and type in a description of the unit. There are no rules for the type of information that you may enter here.

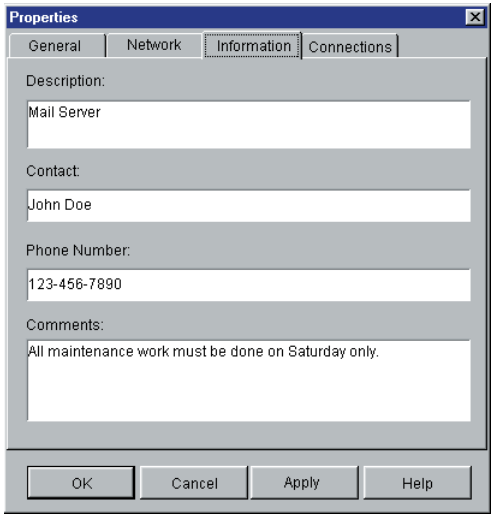

Figure 3.18: Server Information Tab

9. (Optional) Click the *Connections* tab to view the physical connection path that will be used to access this device. This feature is useful for troubleshooting. Figure 3.19 shows a connection to a server. Figure 3.20 shows a server connected to Channel 1 of a legacy switch.

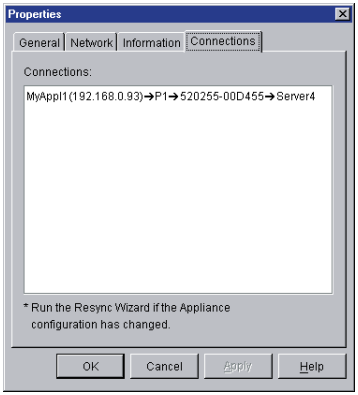

Figure 3.19: Server Connection Example

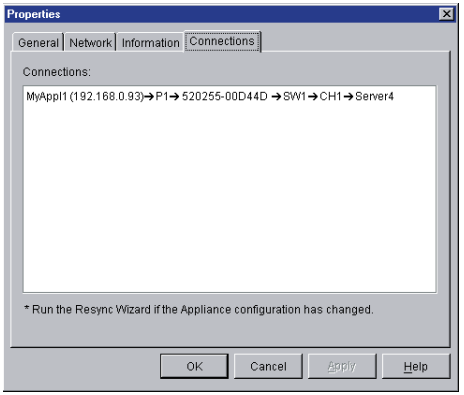

Figure 3.20: Switch Connection Example

10. When finished, click *OK* to save the new settings.
    -or-
    Click *Cancel* to exit without saving the new settings.

Accessing a server via a browser window

You can configure your system to open a server connection in a browser window. You must first select a server and define a URL in the Properties dialog box as previously described. Then, when you select the server, the Browse task button appears. You can select the browser to use in the AVWorks Explorer's Options dialog box.

To launch the server URL in a browser window:

1. Select a server in the Unit Selector pane.
2. If you have defined a URL for this server in the Properties dialog box, the Browse task button appears. Click the *Browse* task button. The URL you identified will launch in a browser window.

Organizing Units with the Local Client Database

The local client database provides persistent storage for unit names, properties, network addresses and custom session settings. Device attributes such as type, site and department allow you to create and store logical groups for your devices. Custom folders allow you to group units within the local client database. View tabs, sort bars and search functions use these attributes to find specific units within the database.

Site organization is based on where your servers are located and refers to the column headings Site and Department, which can be customized to suit your needs. See *Modifying custom field names* in this chapter. Folders provide a way to

create a customized organizational system for individual servers. For example, you might want to create a folder for critical servers or for remote servers.

You may change the order and sorting of the Unit Selector list by clicking the sort bar above the column. An upward-pointing arrow in a column header indicates that the list is sorted by that field name in ascending order. A downward-pointing arrow indicates the list is sorted by that field name in descending order.

The sort bar properties are customizable. Figures 3.21 and 3.22 show examples of how you might use the default field name values. You may change them to fit your own organization. Figure 3.23 features customized field names.

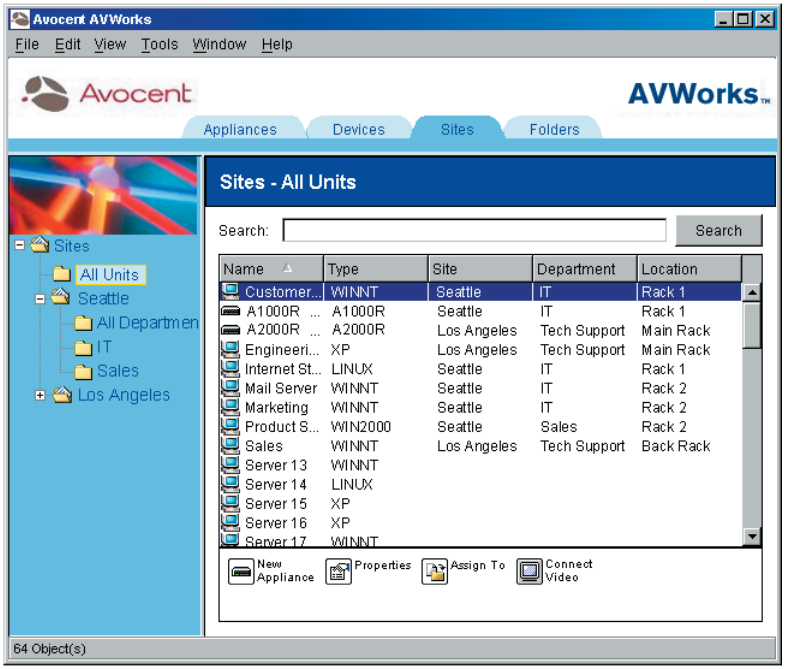

Figure 3.21: Sites View Tab Selected

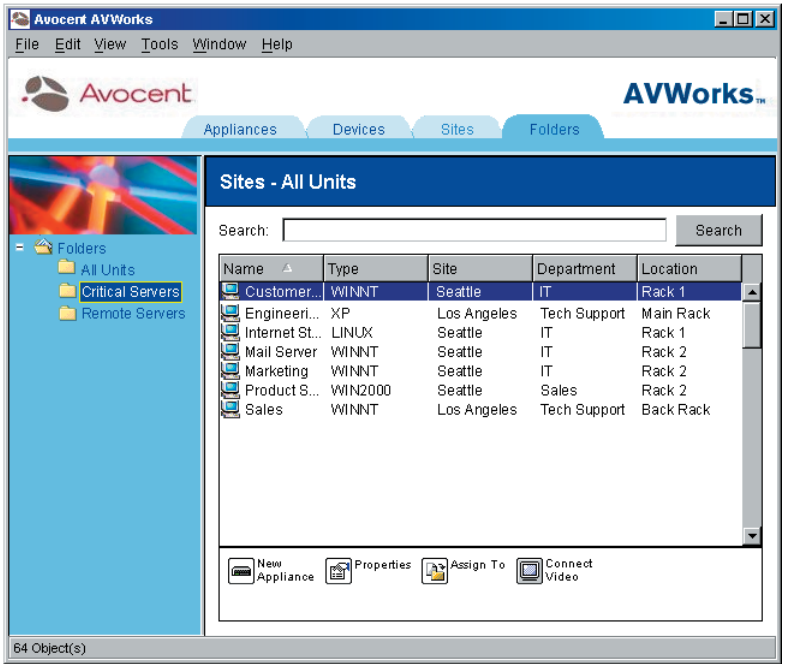

Figure 3.22: Folders View Tab Selected

Modifying custom field names

Custom field names allow you to change the Site, Department and Location column heading names that appear in the Group and Unit Selector panes. This allows you to group appliances and servers in ways that are meaningful to you. The Department field is a subset of Site. If you customize these field names, you should keep this hierarchy in mind.

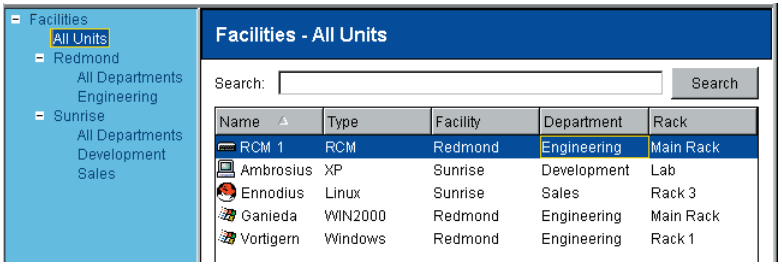

Figure 3.23: Example of Modified Custom Fields

To modify a custom field label:

1. Select *Tools* - *Options* from the AVWorks Explorer menu. The Options dialog box appears.

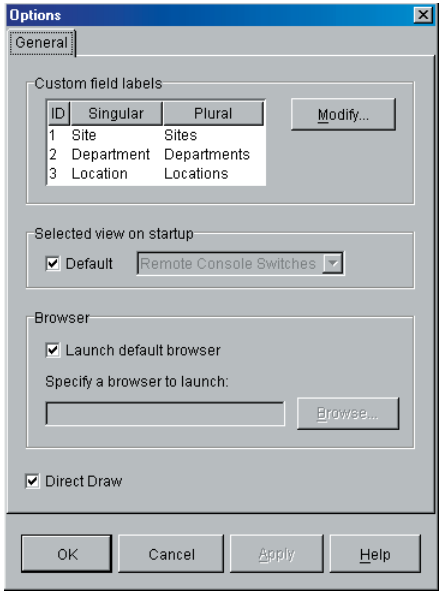

Figure 3.24: Options Dialog Box - Custom Field Labels

2. Select a field label to modify and click the *Modify* button. The Modify Custom Field Label dialog box appears.
3. Type the singular and plural versions of the field label. The length can be from 1 to 32 characters. A blank value is not allowed. Spaces are permitted in the middle but leading and trailing spaces are not allowed.
4. Click *OK* to save the new field label.
   -or-
   Click *Cancel* to exit without saving changes.

Creating new sites, departments, locations or folders

You can organize units within your local database into sites, departments locations or folders by assigning a unit to that structure. Sites, departments and locations all appear under the Sites tab. These default headings can be changed. See *Modifying custom field names* in this chapter. Folders appear under the Folders tab and provide unlimited organizational options. You may name and structure folders in any way you choose.

To create a new site, department or location:

1. Select *View - Properties* from the AVWorks Explorer menu.
   -or-
   Click the *Properties* task button. The Properties dialog box appears.
2. Click the *General* tab and select the pulldown menu for Site, Department

or Location. If a name is not in the pulldown menu, type the name you want in the text field. The name can be from 1 to 32 characters long. Names are not case sensitive and can consist of any combination of characters entered from the keyboard. Spaces are permitted in the middle but leading and trailing spaces are not allowed. Duplicate names are not allowed.

3. Click *OK*. The new site, department or location appears in the Group Selector pane.

To create a new folder:

1. Select the *Folders* View tab.
2. Click on the top-level *Folders* node and select *File - New - Folder*.
   -or-
   Right-click on the *Folders* node and select *New Folder*. The New Folder dialog box appears.
   -or
   Click on an existing folder and select *File - New - Folder* to create a nested folder.
3. Type in a name for the folder from 1 to 32 characters long. Folder names are not case sensitive and can consist of any combination of characters entered from the keyboard. Spaces are permitted in the middle but leading and trailing spaces are not allowed. Duplicate folder names are not allowed at the same level but are allowed across different levels.
4. Click *OK*. The new folder appears in the Group Selector pane.

Assigning a unit to a site, location or folder

Once you have created a new site, location or folder, you can assign an appliance or server to that organization. The *Assign* menu item is only enabled when a single appliance or server is selected in the Unit Selector pane. These custom assignment targets are defined in the General Properties dialog box.

To assign a unit to a site, location or folder:

1. Select a unit in the Unit Selector pane.
2. Select *Edit - Assign* from the AVWorks Explorer menu.
   -or-
   Click the *Assign To* task button.
   -or
   Right-click on a unit and select *Assign To*. The Assign To dialog box appears.

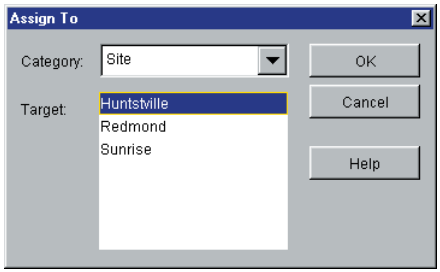

Figure 3.25: Assign To Dialog Box

3. Select the site, location or folder category from the pulldown menu.
4. Select the target from the list of available targets to which the unit can be assigned within the chosen category. This could be empty if no site, location or folder has been defined in the local database.
5. Click *OK* to save the assignment.
   -or-
   Click *Cancel* to exit without saving changes.

To drag and drop a unit into a site, location or folder:

Click and hold on a unit in the Unit list. Drag the item on top of a folder icon (node) in the tree view of the Group Selector pane. Release the mouse button. The item now appears in the Unit list when you click that node.

NOTE: A unit cannot be moved to All Departments, All Units or the root Sites node. Units can only be moved one at a time.

Deleting and Renaming

The delete function works based on what is currently selected in the Group and Unit Selector panes. When you select and delete a unit in the Unit list, it is removed from the local database. This will not affect the configurations in OSCAR. When you select and delete an item in the tree view of the Group Selector pane, you will delete Server Types, Sites, Departments or Folders; however, none of the actions result in units being deleted from the local database.

The rename function is also dependent on what is currently selected. You can select and rename an appliance or a server from the Unit list. You can select and rename server types, sites, departments and folder names in the tree view of the Group Selector pane.

NOTE: If you delete or rename a server through AVWorks, the OSCAR server list at the local analog workstation becomes out of date. Resynching will not download server names into OSCAR. Devices should be deleted or renamed from OSCAR and then resynchronized in AVWorks.

To delete an appliance or server:

1. Select the unit(s) to delete from the Unit Selector pane.
2. Select *Edit - Delete*.
   -or-
   Press the **Delete** key on your keyboard. A dialog box appears confirming the number of units to be deleted. If you are deleting an appliance, the dialog box includes a Delete Associated Devices checkbox. Enable/disable the checkbox as desired. If you do not delete the associated devices, they will still appear in the devices list, however, you will not be able to connect video to them.
3. Click *Yes* to confirm the deletion. Additional message prompts may appear depending on your configuration. Respond as appropriate. The appliance or server is deleted.
   -or-
   Click *No* to cancel.

To delete a device type, site, department or folder:

1. Select the device type, site, department or folder to delete from the Group Selector pane.
2. Select *Edit - Delete*.
   -or-
   Press the **Delete** key on your keyboard. A dialog box appears confirming the number of units that will be affected by this deletion.
3. Click *Yes* to confirm the deletion. Additional message prompts may appear depending on your configuration. Respond as appropriate. The element is deleted.
   -or-
   Click *No* to cancel.

To rename a device type, site, department or folder:

1. In the Group Selector pane, click on the device type, site, department or folder to rename.
2. Select *Edit - Rename*. The Rename dialog box appears.
3. Type in a name from 1 to 32 characters long. Names can consist of any combination of characters entered from the keyboard. Spaces are permitted in the middle but leading and trailing spaces are not allowed. Duplicate names are not allowed, including the same name with different cases, with two exceptions: department names can be duplicated across different sites and folder names can be duplicated across different levels.
4. Click *OK* to save the new name.
   -or-
   Click *Cancel* to exit without saving changes.

Customizing the AVWorks Explorer Window

The AVWorks Explorer window can be resized at any time. Each time you launch the application, the AVWorks Explorer window opens to its default size and location.

A split-pane divider that runs from top to bottom separates the Group Selector pane and the Unit Selector pane. You can move the divider left and right to change the viewing area of the Group Selector pane and the Unit Selector pane. Each time AVWorks Explorer is started, the divider will appear in its default location. See *Appendix B* for divider pane and tree view control mouse and keyboard shortcuts.

Modifying the selected view on startup

When *Default* is checked under the selected view on the startup option, the AVWorks Explorer will determine which view to display. If you have one or more servers defined, the Devices display will appear by default. If you do not, the Appliances display will appear.

When *Default* is unchecked, the AVWorks Explorer will display the view selected in the pulldown menu shown below the checkbox. The pulldown menu contains the following values: Appliances, Devices, Sites and Folders. The pulldown menu is only enabled when the checkbox is unchecked.

To modify the selected view on startup:

1. Select *Tools - Options* from the AVWorks Explorer menu. The Options dialog box appears.
2. Select *Appliances, Devices, Sites* or *Folders* from the pulldown menu.
3. Click *OK* to save the new startup view.
   -or-
   Click *Cancel* to exit without saving changes.

Changing the default browser

You can specify which browser launches when viewing a server URL in a browser window. You have the option of using the default browser for your system, or you can select a specific browser to launch for that server.

To change the default browser:

1. Select *Tools - Options* from AVWorks Explorer. The Options dialog box appears.
2. Deselect the *Launch Default Browser* checkbox. The Browse button is enabled.
3. Click the *Browse* button and navigate to the browser.

4. Click *OK* to save the new browser selection.
   -or-
   Click *Cancel* to exit without saving changes.

Managing Your Local Databases

Each workstation running AVWorks contains a local database that records the information that you enter about your units. If you have multiple workstations, you may configure one station and then save a copy of this database and load it into the other stations to avoid unnecessarily reconfiguring each station. You may also export the database for use in another application.

Saving a database

AVWorks allows you to save a copy of the local database for later use. The saved database can then be loaded back to the same computer where it was created, or it can be loaded onto another AVWorks client. The saved database is compressed into a single Zip file.

While the database is being saved, no other activity is allowed. All other windows including Video Session windows and Appliance Management Panel windows must be closed. If other windows are open, a message will appear prompting you to either continue and close all open windows or quit and cancel the database save process.

To save a database:

1. Select *File - Database - Save*. The Database Save dialog box appears.

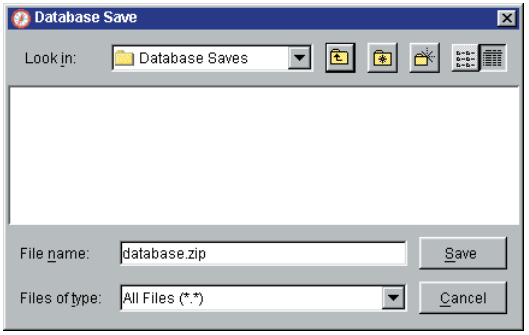

Figure 3.26: Database Save Dialog Box

2. Type in a file name and choose a location to save the file.
3. Click *Save*. A progress bar appears during the save. When finished, a message appears indicating that the save was successful and you are returned to the main window.

Exporting a database

This function allows you to export fields from the local database to an ASCII Comma Separated Value file (CSV) or Tab Separated Value file (TSV). The following database fields will be exported.

Exported Database Fields
AutoView 1000R/2000R Flag
Type
Name
Address
Custom Field 1
Custom Field 2
Custom Field 3
Description
Contact Name
Contact Phone #
Comments
Browser URL

NOTE: The Address field only applies to appliances and the Browser URL field only applies to servers. In the exported file, the Address field data will be empty for servers and the Browser URL field data will be empty for appliances.

The first line of the exported file contains the column names for the field data. Each additional line contains the field data for an appliance or server. The file will contain one line for each appliance and server defined in the local database.

To export a database:

1. Select *File - Database - Export* from the AVWorks Explorer menu. The Database Export dialog box appears.
2. Select a database to export.
3. Type in a file name and browse to the location to save the exported file.
4. Click *Export*. A progress bar appears during the export. When finished, a message appears indicating that the export was successful and you are returned to the main window.

Loading a database

This function allows you to load a database that was previously saved. While the database is being loaded, no other activity is allowed. All other windows including Video Session windows and Appliance Management Panel windows must be closed. If other windows are open, a message appears prompting you to either continue and close all open windows or quit and cancel the database save process.

To load a database:

1. Select *File - Database - Load* from the AVWorks Explorer menu. The Database Load dialog box appears.
2. Browse to select a database to load.
3. Click *Load*. A progress bar appears during the load. When finished, a message appears indicating that the load was successful and you are returned to the main window.

4 Managing Your Appliance

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Chapter 4: Managing Your Appliance

Once you have installed a new appliance, you have the ability to view and configure unit parameters, view and control currently active video sessions and execute a variety of control functions such as rebooting and upgrading your appliance. This is accomplished through the Appliance Management Panel (AMP). The AMP has three tabbed panels: Settings, Status and Tools.

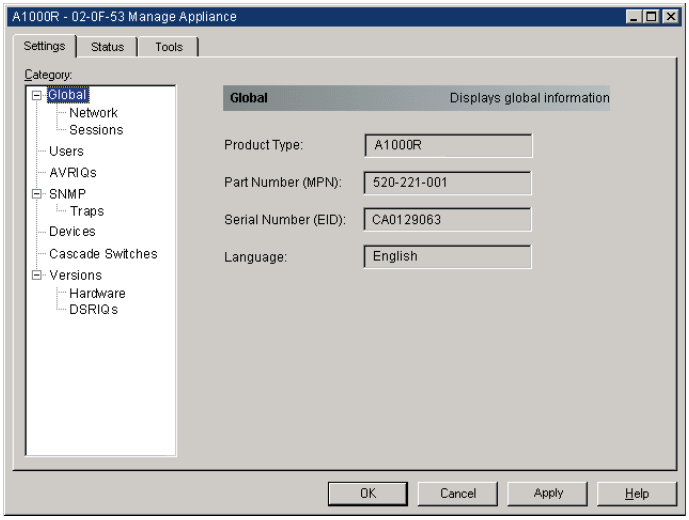

Figure 4.1: Appliance Management Panel Dialog Box

To access the AMP:

1. Click the *Appliances* button in the AVWorks Explorer.
2. Double-click on an appliance from the Unit Selector pane.
   -or-
   Select an appliance from the Unit Selector pane, then click the *Manage appliance* task button.
   -or-
   Right-click on an appliance in the Unit Selector pane. A pop-up menu appears. Select *Manage appliance*.
   -or-
   Click an appliance in the Unit Selector pane and press **Enter**.
3. A password prompt appears. Type in your username and password and click *OK*. The default username is **Admin** with no password.

NOTE: AVWorks caches your user credentials until the application is closed. You do not need to re-enter your credentials for each session.

4. The Appliance Management Panel dialog box appears.

Viewing and Configuring Appliance Parameters

The Settings tab allows you to display an expandable list of categories covering a wide range of parameters for your appliance. When a category is selected from the list, the parameters associated with the category will first be read from the unit, the local database or both. You will then be able to modify those parameters and send the changes securely back to the appliance.

Changing global network and session parameters

The Global category allows you to view the product type, part and serial number and language setting for the appliance. If you select the *Network* sub-category, you will be able to change the network settings including the IP address, subnet mask, gateway, LAN speed and BootP setting. If you select the *Sessions* sub-category, you can enable the session time-out to allow the appliance to close an inactive video session after a specified number of minutes.

Setting up user accounts

When you select the Users category for the first time, the AMP will retrieve and display a list of usernames and current access levels from the appliance. You can add, modify or delete users in this listing. You can assign three access levels: User, User Administrator and Appliance Administrator. The User Access level allows you to assign individual server access rights to a user.

Users can become locked out by the Security Lock-out feature if they try to enter an invalid password five consecutive times. You can configure Security Lock-out settings as well as unlock any user through the Users category.

User Access Level Rights

Operations	Appliance Administrator	User Administrator	User
Preemption	All	Equal and lesser	Equal and Lesser
Configure network & global settings (security mode, time-out, SNMP)	Yes	No	No
Reboot	Yes	No	No
FLASH upgrade	Yes	No	No
Administer user accounts	Yes	Yes	No
Configure port settings	Yes	Yes	No
Monitor server status	Yes	Yes	No
Break	Yes	Yes	Yes
Target Device Access	Yes	Yes	Assigned by Admin

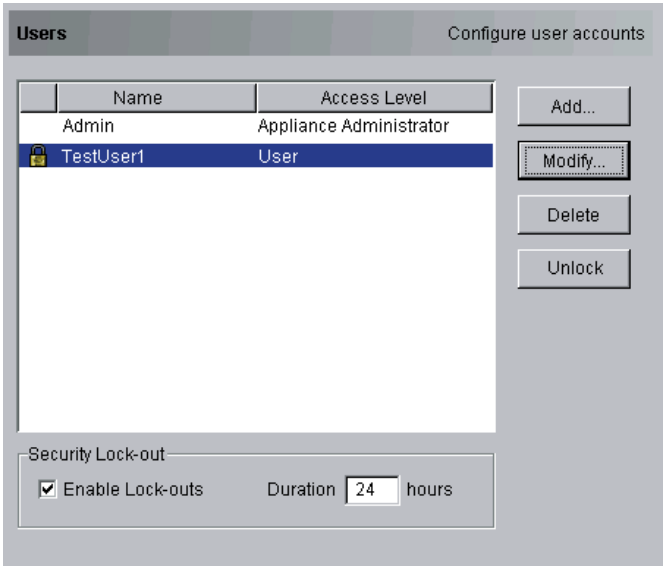

Figure 4.2: Users Dialog Box

To add or modify a user:

1. Click the *Users* category in the left column in the AMP.
2. Click the *Add* button on the right side of the window to add a new user. The Add User dialog box appears.
   -or-
   Select a user and click the *Modify* button to modify a current user. The Modify User dialog box appears.

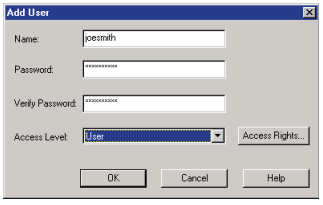

Figure 4.3: Add User Dialog Box

3. Enter the username and password to assign to the user and then verify the password by typing it into the Verify Password field.
4. Select the appropriate access level for this user from the pulldown menu. If you select the *User* option, the Access Rights button appears.
   a. Click the *Access Rights* button to select individual servers for that user. The User Access Rights dialog box appears.

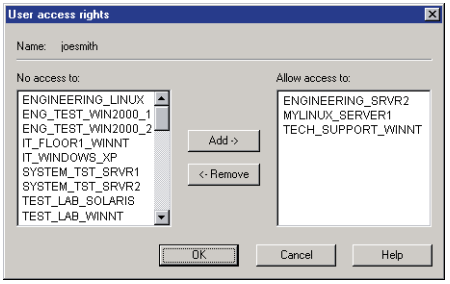

Figure 4.4: User Access Rights Dialog Box

b. Select a server in the left column for which this user should have access rights. Select the *Add* button.
c. Select a server in the right column from which to remove a user's access rights. Click the *Remove* button.
d. Repeat steps a and b until the right column represents the appropriate server access for this user, and then click *OK*.

5. Click *OK* to save the settings and return to the main AMP window.

To delete a user:

1. Click the *Users* category in the left column in the AMP and then select the user(s) to delete.
2. Click the *Delete* button on the right side of the AMP Users window. A confirmation window appears.
3. Click *Yes* to confirm the deletion.
   -or-
   Click *No* to exit the window without deleting the user.

Locking and unlocking user accounts

If a user enters an invalid password five consecutive times, the Security Lock-Out feature will temporarily disable that account. If a user attempts to log in again, the software client application displays an appropriate error message. All accounts (user, user admin and appliance admin) are subject to this lock-out policy.

An appliance administrator can specify the number of hours (1 to 99) that accounts will remain locked. When *Enable Lock-outs* is unchecked, the security lock-out feature will be disabled and no users will be locked out.

If an account becomes locked, it will remain locked until the Duration time has elapsed, the appliance is power-cycled or an administrator unlocks the account via the AMP. A user administrator may unlock only user accounts, whereas an appliance administrator may unlock any type of account.

To unlock an account:

1. Click the *User*s category in the AMP.
2. Select the user to unlock.
3. Click the *Unlock* button. The lock icon next to the user name will disappear.
4. Click *OK* or *Apply*. The user will be able to attempt to log in again.
   -or-
   Click *Cancel* to exit without saving.

To specify the length of time a user account remains locked:

1. Click the *Users* category in the MP.
2. Click the *Enable Lock-outs* checkbox.
3. Enter the number of hours that a user will be locked out (1 to 99).

To disable the Security Lockout feature:

1. Click the *Users* category in the MP.
2. Uncheck the *Enable Lock-outs* checkbox. The Duration field is disabled.

NOTE: Disabling Security Lockout will have no affect on users that are already locked out.

Viewing the AVRIQ adaptors

The AVRIQs category lets you view the AVRIQ adaptors in your system, their port and EID numbers as well as the computer type and keyboard language. You can also view the AVRIQ status. A green circle indicates that the AVRIQ is online. A yellow circle means the AVRIQ is being upgraded and a red X indicates that the AVRIQ is offline.

Enabling and configuring SNMP

SNMP (Simple Network Management Protocol) is a protocol used to communicate management information between network management applications and appliances. Other SNMP managers (such as Tivoli and HP OpenView) can communicate with your appliance by accessing MIB-II (Management Information Base) and the public portion of the enterprise MIB. MIB-II is a standard MIB that many SNMP servers support. When you select the *SNMP* category for the first time, the AMP will retrieve the SNMP parameters from the unit.

In this dialog box, you can enter system information and community strings. You may also designate which stations can manage the appliance as well as receive SNMP traps from the switch. For more information on traps, see *Enabling individual SNMP traps* in this chapter. If you check *Enable SNMP*, the

unit will respond to SNMP requests over UDP (User Datagram Protocol) port 161. Port 161 is the standard UDP port used to send and receive SNMP messages.

If you enter one or more allowable managers, only those IP addresses will be able to manage the appliance via SNMP. If you do not enter any allowable managers, then the appliance can be managed via SNMP from any IP address.

NOTE: The AMP uses SNMP within a secure tunnel to manage appliances. For this reason, UDP Port 161 need not be exposed on firewalls. You will need to expose UDP Port 161 to monitor Avocent appliances via third-party SNMP-based management software.

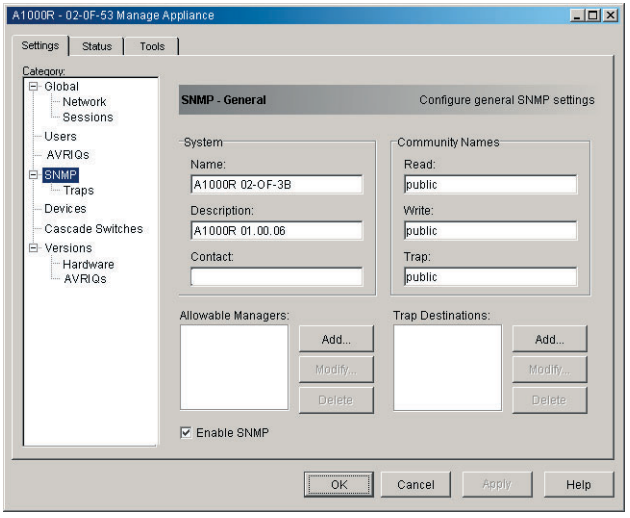

Figure 4.5: SNMP Configuration Dialog Box

To configure general SNMP settings:

1. Click the *SNMP* category in the left column in the AMP.
2. Click the *Enable SNMP* checkbox to allow the appliance to respond to SNMP requests over UDP port 161.
3. Enter the system's fully qualified domain name in the Name field, as well as a description and node contact person in the System section.
4. Enter the Read, Write and Trap community names. These specify the community strings that must be used in SNMP actions. The Read and Write strings only apply to SNMP over UPD port 161 and act as passwords that protect access to the appliance. The values can be up to 64 characters in length.
5. Add up to four SNMP management entities to monitor this appliance or leave this blank to allow any station to monitor the appliance.
   a. Click the *Add* button to define an allowable manager. The Allowable

Manager dialog box appears.

b. Type in the IP address of the management station to add.

c. Click *OK* to add a management station.

6. Add up to four SNMP trap destinations to which this appliance will send traps in the Trap Destination field.

   a. Click the *Add* button to define a trap destination. The Trap Destination dialog box appears.

   b. Type in the IP address of the trap destination to add.

   c. Click *OK* to add a trap destination.

7. Click *OK* to save the settings and close the window.

   -or-

   Click *Apply* to save the settings and remain in the open window.

   -or-

   Click *Cancel* to exit the window without saving.

Enabling individual SNMP traps

An SNMP trap is a notification sent by the appliance to a management station indicating that an event has occurred in the appliance that may require further attention. You can specify what SNMP traps are sent to the management stations by simply clicking the appropriate checkboxes in the list. When you select the *Traps* category for the first time, the AMP will retrieve and display a list of SNMP traps from the appliance. You may select *Enable All* or *Disable All* to easily select or deselect the entire list.

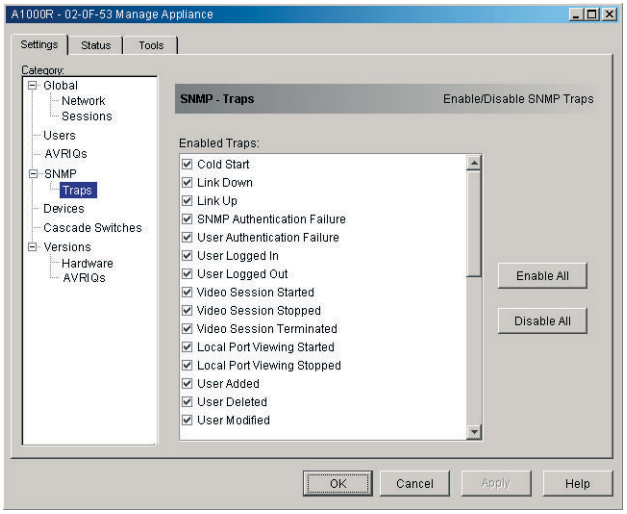

Figure 4.6: Traps Dialog Box

Viewing server connections

When you select the *Devices* category for the first time, the AMP will retrieve the servers that exist in the AVWorks database as well as information on how the servers are connected to the selected appliance.

The Connection column displays the current server connection. This can be to either an AVRIQ adaptor or a cascade switch. If connected to an AVRIQ adaptor, the AVRIQ's EID will display in the Connection column. If connected to a cascade switch, the switch and all of its channels will be displayed. If no unit is currently connected to the path, then this field will display as *None*. If you click either an AVRIQ or switch in the Connection column, the Viewer will launch.

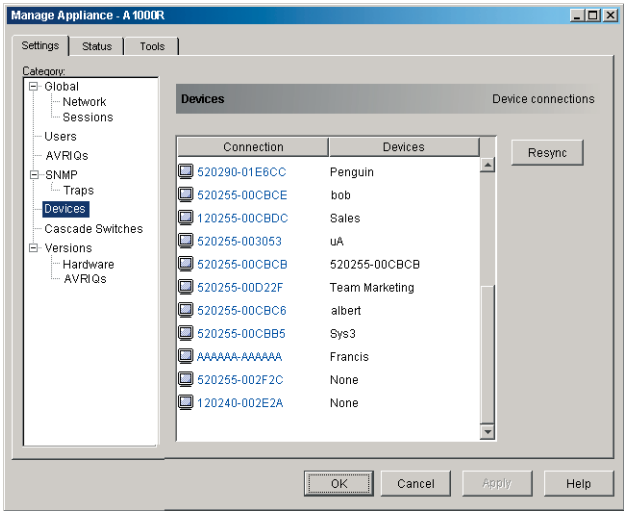

Figure 4.7: Devices Dialog Box

Resynchronizing the server listing

You may choose to periodically resynchronize the database on your AVWorks client with the database stored in the appliance. Do this if the local analog workstation has changed server names or if AVRIQ adaptors have been added or moved.

NOTE: This procedure only resynchronizes your own AVWorks client. If you have multiple AVWorks clients, save your resynchronized local database and load it into the other AVWorks client to ensure consistency.

To resynchronize the server listing:

1. Click the *Resync* button in the Server category of the AMP. The Resync Wizard launches. Click *Next*.

2. A warning message displays indicating that the database will be updated

to match the current configuration in the appliance. Your current local database names will be overridden with the appliance names. Click *Next*.

3. A polling appliance message box appears with a progress bar indicating that the appliance information is being retrieved.
4. If no changes were detected in the appliance, a completion dialog box appears with this information.
   -or-
   If server changes were detected, then the Detected Changes dialog box will be displayed. Click *Next* to update the database.
   a. If a cascade switch was detected, the Enter Cascade Switch Information dialog box appears. Select the type of switch connected to the appliance from the pulldown menu. If the type you are looking for is not available, you can add it via the Add button. For more information, see *Configuring cascade switch connections* in this chapter. Click *Next*.
5. The completion dialog box appears. Click *Finish* to exit.

Configuring cascade switches connections

The Cascade Switches category lets you view the cascade switches in your system and the AVRIQ adaptor EID numbers as well as the type of switch and the port to which it is connected.

To configure a cascade switch connection:

1. Click the *Cascade Switches* category in the left column in the AMP.
2. Click the pulldown list next to the switch and select the switch type to assign.
   -or-
   If the switch type isn't in the pulldown list, add a switch to the Existing Cascade Switches list by clicking the *Add button*.
   a. The Add Cascade Switch dialog box appears. Type the name of the switch and select the switch type from the list.
   b. Click *OK* to add the switch. The switch should now be in the Existing Switches list and in the Switch pulldown list.
3. Repeat step 2 for each switch that you wish to configure.
4. When finished, click *OK* to save the new settings.
   -or-
   Click *Cancel* to exit without saving.

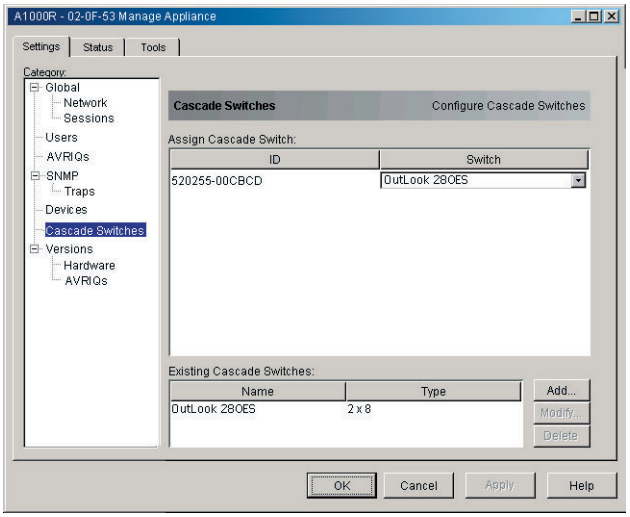

Figure 4.8: Configure Cascade Switches Dialog Box

Upgrading Firmware

You can upgrade the firmware for either the appliance or the AVRIQ adaptors. The AVRIQ adaptors can be upgraded individually or simultaneously. When an upgrade is initiated, you will see a message indicating the current status. As long as an upgrade is in progress, you cannot initiate another.

Viewing appliance Version information

When you select the *Versions* category for the first time, the AMP will retrieve the firmware versions from the appliance. The Hardware sub-category displays the version information for the unit itself. The AVRIQs sub-category allows you to view and upgrade all of the AVRIQ adaptors in the system.

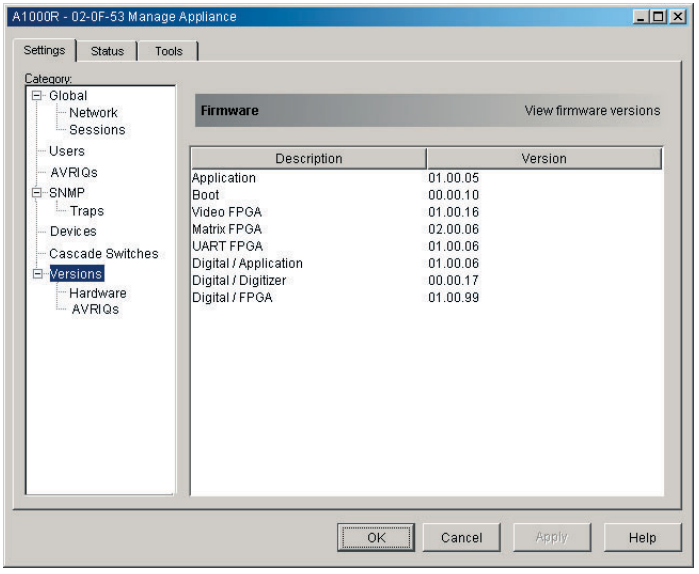

Figure 4.9: Firmware Version Dialog Box

To upgrade appliance firmware:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Upgrade AutoView 1000R/2000R Firmware* button. The Firmware Upgrade dialog box appears. Type in the TFTP (Trivial File Transfer Protocol) server IP address where the firmware is located as well as the firmware filename and directory location.

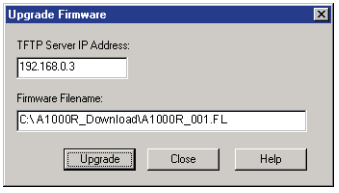

Figure 4.10: Upgrade Firmware Dialog Box

3. Click the *Upgrade* button. The Upgrade button dims and a progress message appears.
4. When the upgrade is complete, a message appears, prompting you to confirm a reboot. The new firmware will not be used until the switch reboots. Click *Yes* to reboot the appliance. The Upgrade Firmware dialog box will display a progress message including a message that the reboot is complete.
   -or-
   Click *No* to reboot at a later time. You must reboot to use the new firmware.

5. Click *Close* to exit the Upgrade Firmware window.

CAUTION: Do not turn off the AutoView 1000R/2000R while it is rebooting.

To simultaneously upgrade multiple AVRIQ adaptors:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Upgrade AVRIQ Firmware* button. The Upgrade AVRIQ Firmware dialog box appears.
3. Click the checkboxes in front of each type of AVRIQ adaptor to upgrade.
4. Click *Upgrade*. The Upgrade button dims. The Status column will display either *In Progress* or *Succeeded*, depending on the status of each AVRIQ upgrade. A *Firmware upgrade currently in progress* message displays until all of the selected AVRIQ adaptor types are upgraded.
5. When complete, a message appears prompting you to confirm the upgrade completion. Once confirmed, the Upgrade button is again enabled.
6. Click *Close* to exit the Upgrade Firmware window.

To upgrade AVRIQ firmware individually:

1. Click the *Settings* tab in the AMP.
2. Click the *AVRIQ* sub-category under Versions in the left column in the AMP.
3. Select the *EID* pulldown menu and choose the AVRIQ adaptor for which you would like to view firmware information. The IDs displayed in the pulldown are a combination of the EID and either the server name or switch name, depending on what is attached to the AVRIQ adaptor. If the AVRIQ is not attached to anything, the pulldown will display *None*. Once selected, the firmware information appears in the Information box.
4. Compare it to the Firmware Available box to see the firmware upgrade available to the AVRIQ adaptor. If the AVRIQ adaptor requires upgrading, click the *Load Firmware* button.
5. The firmware upgrade begins. During the upgrade, a progress message is displayed below the Firmware Available box and the Load Firmware button will dim. When the upgrade is finished, a message appears indicating that the upgrade was successful.
6. Repeat steps 2-5 for each AVRIQ to upgrade.
7. When finished, click *OK*.

Managing User Sessions

You may view and disconnect the current active user connections as well as unlock user accounts by using the Status tab in the AMP. You can view the length of time users have been connected, the server name or AVRIQ to which they are connected and their system address.

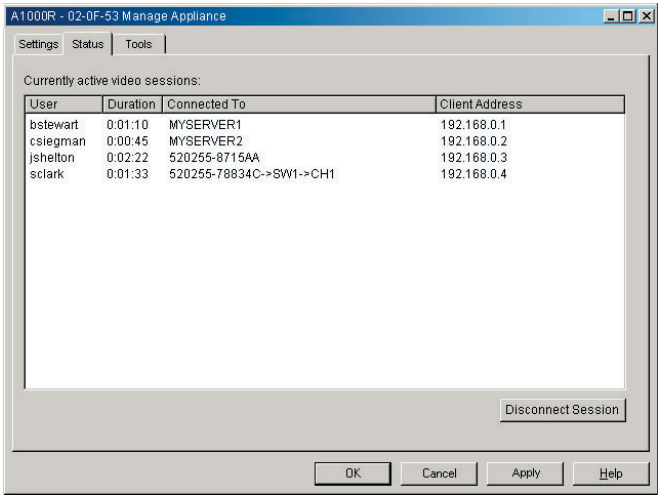

Figure 4.11: User Status Dialog Box

To disconnect a user session:

1. Click the *Status* tab in the AMP. The User Status dialog box appears.
2. Select one or more users to disconnect. Press the **Shift** key to select multiple users.
3. Click the *Disconnect Session* button. A message appears prompting you to confirm the disconnect command.
4. Click *Yes* to disconnect the user.
   -or-
   Click *No* to exit without completing the disconnect command.

Rebooting Your Appliance

You can reboot the AutoView 1000R/2000R through the Tools tab in the AMP. When clicked, *Reboot* will broadcast a disconnect message to any active users, then log out the current user and immediately reboot the appliance.

To reboot your appliance:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Reboot* button. A message prompting you to confirm this reboot appears. Click *Yes* to confirm the request. The appliance will now reboot.

Managing Appliance Configuration Databases

An on-board database contains all of the settings for an appliance. This includes network settings, AVRIQ configurations, SNMP settings and attached servers. You may save this configuration information to a client-based file and, should you ever need to replace your AutoView 1000R/2000R, restore the configuration file to the new appliance and avoid manually configuring it.

NOTE: User account information is stored in the user database, not in the configuration file. For more information, see *Managing User Databases* in this chapter.

To read and save a configuration to a file from an appliance:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Save Appliance Configuration* button. The Save Appliance Configuration dialog box appears.
3. Click *Browse* and navigate to a location to save the Configuration file. The location appears in the Save To field.
4. Click *Save*. The configuration file is read from the appliance and saved to the desired location. A progress window displays.
5. When complete, a message appears prompting you to confirm the read completion. Click *OK* to return to the main window.

To restore a configuration file to an appliance:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Restore Appliance Configuration* button. The Restore Appliance Configuration File dialog box appears.
3. Click *Browse* and navigate to the location where you stored the saved configuration file. The file name and location appears in the File name field.
4. Click *Restore*. The configuration file is written to the appliance. A progress window displays.
5. When complete, a message appears prompting you to confirm the write completion. Click *OK* to return to the main window.

Managing User Databases

An on-board user database contains all the user accounts and access rights assigned in an appliance. You can save this database to a client-based file and use it to configure users on other appliances by restoring the user account file to the new appliance.

NOTE: The user account file is encrypted and you will be prompted to create a password when you save the file. You will need to enter this password when you write the file to a new unit.

To save a user database from an appliance:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Save Appliance User Database* button. The Save Appliance User Database dialog box appears.
3. Click *Browse* and navigate to a location to save the user database file. The location appears in the Save To field.
4. Click *Save*. The user database file is read from the appliance and saved to a location. A progress window displays.
5. When complete, a message appears prompting you to confirm the read completion. Once confirmed, the Save Appliance User Database dialog box will close and you are returned to the Tools window.

To restore a user database file to an appliance:

1. Click the *Tools* tab in the AMP. The Tools dialog box appears.
2. Click the *Restore Appliance User Database* button. The Restore Appliance User Database dialog box appears.
3. Click *Browse* and navigate to the location where you stored the saved user database file. The file name and location appears in the File name field.
4. Click *Restore*. The user database file is written to the appliance. A progress window displays.
5. When complete, a message appears prompting you to confirm the write completion. Once confirmed, the Restore Appliance User Database dialog box will close and you are returned to the Tools window.

Changing Appliance Properties

You can alter individual appliance properties whether you are logged into the switch or not. The Properties dialog box contains several tabs: General, Network and Information. The General tab allows you not only to change the name and display icon for an appliance but also to assign the switch to a site, location or department. The Network tab allows you to establish an IP address for that switch. The Information tab allows you to enter information about the appliance including a description, contact information and any comments you would like to add.

To change appliance properties:

1. Select an individual appliance in the Unit Selector list.
2. Select *View - Properties* from the AVWorks Explorer menu bar.

-or-
Click the *Properties* button.
-or-
Right-click on the switch and select *Properties* from the pop-up list. The Properties dialog box appears.

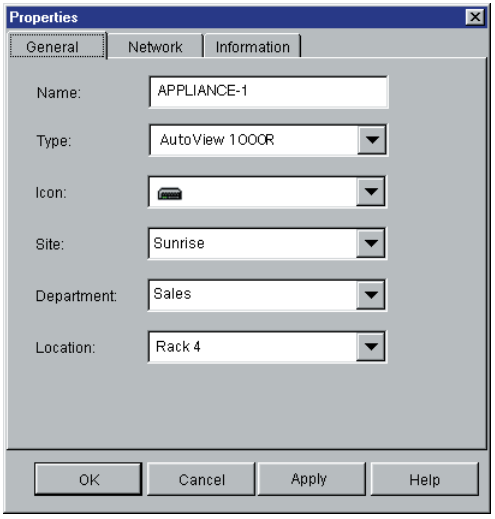

Figure 4.12: Appliance General Properties

3. Type in the new name of the appliance, if desired. A warning will display if you enter a duplicate name.
4. Skip the Type field. This is read-only for appliances.
5. Select the icon to display for the unit.
6. (Optional) Select the site, department and location to which you would like the appliance assigned. If a selection is not in the pulldown, type the name of the new assignment in the text field. Once entered, the option becomes available in the pulldown for future assignment.
7. Click the *Network* tab and type in the address of the appliance. This field can contain an IP dot notation or a domain name. Duplicate addresses are not allowed and the field cannot be left blank. You can enter up to 128 characters.
8. (Optional) Click the *Information* tab and type in the description of the unit. You are free to enter any information into these fields.
9. When finished, click *OK* to save the new settings.
   -or-
   Click *Cancel* to exit without saving.

Changing DirectDraw® support

AVWorks supports DirectDraw, a standard that allows direct manipulation of video display memory, hardware blitting, hardware overlays and page flipping without the intervention of the Graphical Device Interface (GDI). This can result in smoother animation and improvement in the performance of display-intensive software.

However, if your machine has a software cursor or pointer shadow enabled, or if your video driver does not support DirectDraw, you may experience a flicker in your mouse cursor when over the title bar of the Viewer.

You can either disable the software cursor or pointer shadow, load a new driver for your video card or disable DirectDraw.

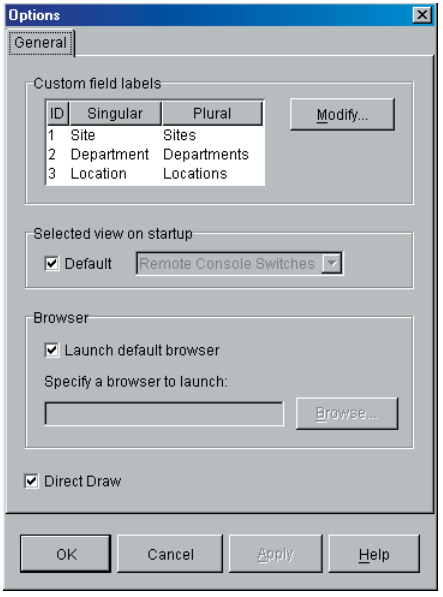

Figure 4.13: Options Dialog Box - DirectDraw

To disable DirectDraw:

1. Select *Tools-Options*. The Options dialog box appears.
2. Deselect the *DirectDraw* checkbox.
3. Click *OK*.

Adding and Deleting Product Licenses

AVWorks is designed to work with a variety of appliances. To support this, AVWorks allows you to add new product licenses as they become available. AVWorks ships with the AutoView 1000R/2000R product license already enabled. However, you may wish to add additional product licenses as your system grows.

Product licenses are made up of a Product Code and a Product Key. The Product Code and Product Key are provided by Avocent. The Discover Wizard and the New Appliance Wizard only support the discovery and installation of enabled products. New product licenses can be added and existing licenses can be deleted from this dialog as well.

To view licenses:

Select *Tools - License Manager*. The License Manager dialog box appears.

To add a license:

1. Select *Tools - License Manager*. The License Manager dialog box appears.
2. Click the *Add* button. The Add License dialog box appears.
3. Enter the Product Code and Key that you received from Avocent.
4. Click *OK* to save the new product license.
   -or-
   Click *Cancel* to exit without saving changes.

To delete a license:

1. Select *Tools - License Manager*. The License Manager dialog box appears.
2. Select a product from the Licensed Product list.
3. Click the *Delete* button. A warning message appears to prompt you to confirm the deletion. Click *OK* to delete the product license.
   -or-
   Click *Cancel* to exit the delete operation without deleting the product license.

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Appendices

Appendix A: Updating AVWorks

For optimal performance, ensure that you have the latest version of AVWorks available from the Avocent web site.

To update AVWorks:

1. Download the update file from http://www.avocent.com/support.
2. Double-click on the installer. The installer will check to see if a previous version of AVWorks resides on your system.
3. If no previous version has been detected and a dialog box appears to confirm the upgrade, click *Continue*.
   -or-
   If a previous version is detected and a dialog box appears alerting you to another version of the product, click *Overwrite* to confirm the upgrade.
   -or-
   Click *Cancel* to exit without upgrading the software.
4. Installation begins. The Program Files, Shortcuts, Environment Variables, and the Registry Entries (on Windows 32 systems), will be installed or will be overwritten with the new files and settings of the current version.

NOTE: In order for the upgrade detection process to work, you must first either reboot or log out. Environment Variables set by the installer are not permanent on Windows 32 platforms or Linux until you have logged out or rebooted the system.

Appendix B: Keyboard and Mouse Shortcuts

Divider Pane Keyboard and Mouse Shortcuts

Operation	Description
F6	Navigates between the split-screens and gives focus to the last element that had focus.
F8	Gives focus to the divider.
Left or Up Arrow	Moves the divider left if the divider has the focus.
Right or Down Arrow	Moves the divider right if the divider has the focus.
Home	Gives the right pane of the split-screen all of the area (left pane disappears) if the divider has the focus.
End	Gives the left pane of the split-screen all of the area (right pane disappears) if the divider has the focus.
Click + Mouse Drag	Moves the divider left or right.

Tree View Control Keyboard and Mouse Shortcuts

Operation	Description
Mouse Single-Click	Deselects the existing selection and selects the node the mouse pointer is over.
Mouse Double-Click	Toggles the expand/collapse state of an expandable node (a node that has children). Does nothing on a leaf node (a node with no children).
Up Arrow	Deselects the existing selection and selects the next node above the current focus point.
Down Arrow	Deselects the existing selection and selects the next node below the current focus point.
Spacebar	Alternately selects/deselects the node that currently has the focus.
Enter	Alternately collapses/expands the node that has focus. Only applies to nodes that have children. Does nothing if a node has no children.
Home	Deselects the existing selection and selects the root node.
End	Deselects the existing selection and selects the last node displayed in the tree.

Keyboard and Mouse Operations for the Unit List

Operation	Description
Enter or Return	Launches the default action for the selected unit.
Up Arrow	Deselects current selection and moves selection up one row.
Down Arrow	Deselects current selection and moves selection down one row.
Page Up	Deselects current selection and scrolls up one page, then selects the first item on the page.

Operation	Description
Page Down	Deselects current selection and scrolls down one page, then selects the last item on the page.
Delete	Performs the Delete function. Works the same as the Edit>Delete menu function.
Ctrl + Home	Moves the focus and the selection to the first row in the table.
Ctrl + End	Moves the focus and the selection to the last row in the table.
Shift + Up Arrow	Extends selection up one row.
Shift + Down Arrow	Extends selection down one row.
Shift + Page Up	Extends selection up one page.
Shift + Page Down	Extends selection down one page.
Shift + Mouse Click	Deselects any existing selection and selects the range of rows between the current focus point and the row the mouse pointer is over when the mouse is clicked.
Ctrl + Mouse Click	Toggles the selection state of the row the mouse pointer is over without affecting the selection state of any other row.
Mouse Double-Click	Launches the default action for the selected unit.

Appendix C: Sun Advanced Key Emulation

The following keys on a normal Type 5 Sun keyboard are emulated by key press sequences listed below on a PS/2 keyboard.

Sun Key Emulation

PS/2 Key Combination	Sun Key (US)
Application (1)	Compose
Scroll LED on + keypad *	Compose
Scroll LED on + F11	Power
Scroll LED on + F7	Open
Scroll LED on + Num Lock	Help
Scroll LED on + F3	Props
Scroll LED on + F5	Front
Scroll LED on + F1	Stop
Scroll LED on + F2	Again
Scroll LED on + F4	Undo
Scroll LED on + F10	Cut
Scroll LED on + F6	Copy
Scroll LED on + F8	Paste
Scroll LED on + F9	Find
Scroll LED on + keypad /	Mute
Scroll LED on + keypad +	Vol.+
Scroll LED on + keypad -	Vol.-
Scroll LED on + F12	Command (left) (2)
Win (GUI) left (1)	Command (left) (2)
Win (GUI) right (1)	Command (right) (2)

(1) Windows 95 104-key keyboard

(2) The Command key is the Sun Meta (diamond) key.

To utilize these keys, press **Scroll Lock**. The Scroll Lock LED illuminates. Use the indicated key as you would use the advanced keys on a Sun keyboard.

For example: For **Stop + A**, press **Scroll Lock**, then **F1 + A**.

These key combinations will work with the USB AVRIQ (if your Sun system comes with a USB port) as well as the Sun AVRIQ. With the exception of the **Scroll Lock + F12**, these key combinations are not recognized by Microsoft Windows. The **Scroll Lock + F12** combination performs a Windows key press.

Appendix D: TCP Ports

The Video Session Viewer communicates with the AutoView 1000R/2000R over TCP ports 8192 and 2068. Digitized video data is sent over port 8192. Encrypted keyboard and mouse data is sent over port 2068. The Appliance Management Panel (AMP) communicates with the AutoView 1000R/2000R over TCP port 3211. All data on ports 2068 and 3211 is encrypted using the Secure Socket Layer (SSL) protocol.

The AutoView 1000R/2000R retains the database of user accounts and permissions. The Video Session Viewer performs user authentication over encrypted port 2068. The AMP performs user authentication over encrypted port 3211.

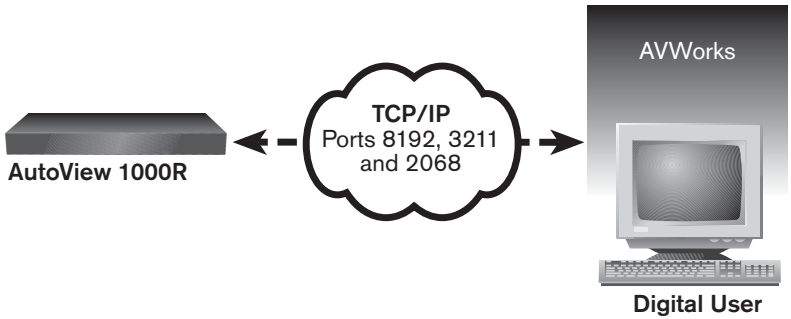

Figure D.1: TCP Port Communication

Appendix E: Troubleshooting

Adjusting the video quality

The Video Viewer offers both automatic and manual video adjustment capability. Generally, the Automatic Video Adjustment will optimize the video for the best possible view. However, you may fine tune the video with the aid of Avocent Technical Support.

Manual Video Adjust Dialog Box Options

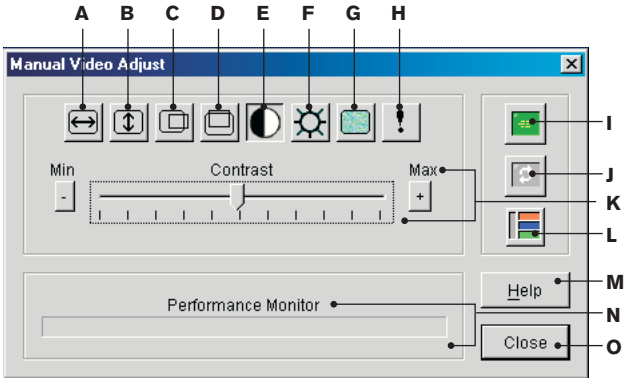

Figure E.1: Manual Video Adjust Dialog Box

A. Image Capture Width	**I.** Automatic Video Adjustment
B. Image Capture Height	**J.** Refresh Image
C. Image Capture Horizontal Position	**K.** Adjustment bar
D. Image Capture Vertical Position	**L.** Video Test Pattern
E. Contrast	**M.** Help button
F. Brightness	**N.** Performance Monitor
G. Noise Threshold	**O.** Close box
H. Priority Threshold	

To manually adjust the video quality of the Video Viewer window:

1. Select *Tools - Manual Video Adjust*. The Manual Video Adjust dialog box appears.
2. Click the icon for a feature to adjust.
3. Move the slider bar and then fine tune the setting by clicking the *Min (-)* or *Max (+)* buttons to adjust the parameter for each icon pressed. The adjustments will display immediately in the Video Viewer window.
4. When finished, click *Close* to exit the Manual Video Adjust dialog box.

Appendix F: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service:

1. Check the pertinent section of this manual to see if the issue can be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call Avocent Technical Support for assistance at (888) 793-8763. Visit the Avocent web site at http://www.avocent.com/support and click on *Getting Support* for current phone support hours.

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LIMITED WARRANTY

Avocent Corporation warrants to the original retail purchaser that this product is and will be free from defects in materials and workmanship for a period of 24 months from the date of purchase.

Additionally, all Avocent products carry an unconditional thirty-day satisfaction guarantee. If, for any reason, you are dissatisfied with the performance of this product, you may return it to the point of purchase for a refund of the purchase price (excluding shipping charges). This guarantee does not apply to special order products, and may not be available through all resellers. During the warranty period, purchaser must promptly call Avocent for a RETURN MATERIALS AUTHORIZATION (RMA) number. Make sure that the RMA number appears on the packing slip, proof of purchase, AND ON THE OUTSIDE OF EACH SHIPPING CARTON. Unauthorized returns or collect shipments will be refused.

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The above limited warranty is voided by occurrence of any of the following events, upon which the product is provided as is, with all faults, and with all disclaimers of warranty identified below:

1. If non-Avocent approved cabling is attached to the unit. Poorly constructed and miswired cabling can diminish video quality and damage equipment. Avocent manufactured cabling is built to high quality standards utilizing overall braided shield to comply with FCC emission standards, and each cable is individually tested under load.
2. If defect or malfunction was caused by abuse, mishandling, unauthorized repair, or use other than intended.
3. If unauthorized modifications were made to product.
4. If unreported damages occurred in any shipment of the product.
5. If damages were due to or caused by equipment or software not provided by Avocent.
6. If the unit is used with non-grounded or incorrectly polarized AC power.
7. If the product is used in contradiction to any instruction provided by any User Guide or Instruction Sheet provided to you or with the product.
8. If the product is damaged due to power surges, water exposure or act of God including lightning.

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